

# **SDWIS/STATE User's Guide for Release 6.1**

Contract No. 68-W-99-002  
Task Order No. 017  
Product Control No. SDC-0002-017-CW-2018A

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**April 14, 2000**

# **SDWIS/STATE USER'S GUIDE FOR RELEASE 6.1**

**CONTRACT NO. 68-W-99-002  
TASK ORDER NO. 017**

**Prepared for:**

**United States Environmental Protection Agency  
Office of Ground Water and Drinking Water  
Drinking Water Implementation Division  
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## Background of SDWIS/STATE

The Environmental Protection Agency's (EPA) Office of Ground Water and Drinking Water (OGWDW) is responsible for implementing the Public Water System Supervision (PWSS) Program established under the auspices of the Safe Drinking Water Act (SDWA) of 1974 and the 1986 and 1996 amendments to the Act. Two of OGWDW's major responsibilities under the Act are (1) to set national standards for drinking water quality and (2) to ensure that states having assumed primary enforcement responsibility for maintaining water quality (i.e., primacy) are complying with these standards. Primacy is the delegation of authority to a state or other regulating agency by EPA to conduct regulating and other enforcement activities in support of federal rules.

Numerous federal and state information systems currently exist to support this effort. The primacy agencies (i.e., states and EPA regions) use a variety of individually developed state data systems. At the national level, the Federal Safe Drinking Water Information System (SDWIS/FED) captures summary information concerning each public water system (PWS) in the nation. Primacy agencies periodically submit information about their water systems that is subsequently entered into the SDWIS/FED system.

The 1986 amendments to SDWA and corresponding federal regulations significantly increased the requirements for states to record and report drinking water information; the 1996 amendments were designed to clarify these requirements. EPA's concerns about the quality of data in the current system also have increased. For these reasons, EPA is modernizing OGWDW information systems to better satisfy the needs of both EPA and state programs. EPA also adopted a management philosophy that considers the needs of both state and federal users. This philosophy stresses the importance of sharing data, reducing support costs, providing easier access to information, and increasing overall information system flexibility.

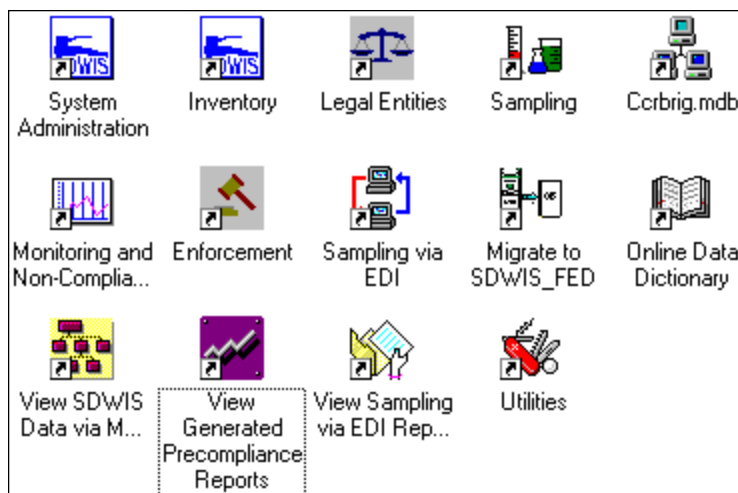
## Topics Covered

SDWIS/STATE is the state-specific (or region-specific) database part of the modernization effort, formerly called SDWIS/LAN. This guide covers the operation of SDWIS/STATE and includes an introduction, software basics, high-level instructions on each component accessible to the general user, graphics depicting screen flows and steps, and an index. This guide contains instructions for using each item in the SDWIS/STATE program group except for *System Administration*, *Migration to SDWIS/STATE*, and *Migration to SDWIS/FED*, which are described in the SDWIS/STATE System Administration Guide.

## Desktop Presentation of SDWIS/STATE

The SDWIS/STATE software provides a means to create and maintain safe drinking water information. States can forward that information to a nationwide EPA database, SDWIS/FED. SDWIS/STATE components are located in one of two program groups: The SDWIS/STATE program group (Exhibit 1-1), which houses the components listed below; and the Migration to SDWIS/STATE program group, which should only be installed on the SDWIS/STATE

Administrator's desktop (this houses all the components you need to migrate your legacy water system data into SDWIS/STATE). *Migration to SDWIS/STATE* is covered in the SDWIS/STATE System Administration Guide.



**Exhibit 1-1.** SDWIS/STATE Program Group and SDWIS/STATE Folders

<b>Legal Entities</b>	Relates to data on legal entities—the people, corporations, government agencies, or private commissions that have an association with one or more water systems. Legal entities are broadly categorized as individuals, government agencies, and all other types such as corporations, nonprofits, trusts, etc.
<b>Inventory</b>	Deals with drinking water as a commodity. Inventory data describe the physical infrastructure of a water system, including individual facilities and unit processes. <i>Inventory</i> includes the acquisition, treatment, storage, and distribution of drinking water.
<b>Sampling</b>	Provides information about the quality of the nation's drinking water. <i>Sampling</i> includes data about the collection, transport, analysis results, and reporting of drinking water samples.
<b>Sampling via EDI</b>	Enables you to easily move sample results that were already created electronically in one database (typically at a laboratory) into your SDWIS/STATE database.
<b>View Sampling via EDI Reports</b>	Reports the results of each file processed to a local MS Access database.
<b>Monitoring and NCD</b>	Enables maintenance of monitoring requirements, violations, milestones, sampling schedules, and automated Noncompliance Determination (NCD) for the Total Coliform Rule (TCR).

<b>View Generated Precompliance Reports</b>	Enables you to view and print the result of automated Preliminary TCR NCD reports.
<b>Enforcement</b>	Supports the maintenance and reporting of actions taken by states and water systems, such as enforcement actions, public notices, and assistance actions.
<b>Online Data Dictionary</b>	Allows you to access and view characteristics of the SDWIS/STATE data model in an MS Access data view. You can view and print reports on the structure and definition of logical entities, attributes, and relationships as well as of physical tables, columns, and foreign keys. The Online Data Dictionary (ODD) includes permitted value information and features queries for commonly paired tables.
<b>View SDWIS/STATE Data via MS Access</b>	Enables you to view the structure and contents of your SDWIS/STATE Oracle tables from the safety of a non-updatable MS Access view. You can create your own queries and reports for any of your SDWIS/STATE Oracle tables.
<b>Utilities</b>	Enables you to inform SDWIS/STATE of the location of your installation of MS Word and MS Access.
<b>System Administration</b>	Enables the state's SDWIS/STATE Administrator to maintain reference tables and rules. Only users with system administration privileges may use this component. <i>System Administration</i> features and functions are covered in the SDWIS/STATE System Administration Guide.
<b>Migration to SDWIS/FED</b>	Enables SDWIS/STATE Administrators to report federally required water system data to SDWIS/FED, including inventory, sampling, and actions data. Only users with system administration privileges may use this component. Details for operating this component are covered in the SDWIS/STATE System Administration Guide.
<b>Migrate to CCR Writer</b>	Supports, with the help of EPA's CCR Writer, the preparation of annual Consumer Confidence Reports using MS Access and enables users to respond to Freedom of Information Act requests.

## User Support

Your data integrity is protected by the SDWIS/STATE software but cannot be protected if you use MS Access or other tools outside the SDWIS/STATE software to insert into an updated SDWIS/STATE Oracle table.

After consulting your SDWIS/STATE Administrator, this user's guide, and online Help about problems or requests for support, you can call the User Support Hotline at (703) 292-6298 for further SDWIS/STATE support. The hotline is intended to be a technical support tool for the current operation and functionality of the SDWIS/STATE software only. Please communicate your requests for expanded functionality or other changes in the software to EPA, or contact the development team at the address listed below.

A SDWIS/STATE team member answers hotline calls between 9 a.m. and 5 p.m. Eastern Standard Time on weekdays (except for federal holidays) and offers immediate user support when possible. During evenings, weekends, or times when the hotline support team member is speaking with another SDWIS/STATE customer, callers can leave a detailed message. Questions that require the expertise of other team members—such as developers, subject matter experts, etc.—will be answered as soon as possible by the appropriate team member. For urgent caller requests, a team member will respond within an hour of the initial hotline call.

For program-wide support of SDWIS/STATE or for user support of the SDWIS/STATE application, contact the EPA's user support representative in the OGWDW office at the following address:

Clint Lemmons  
U.S. Environmental Protection Agency  
OGWDW (4604)  
401 M Street, SW.  
Washington, DC 20460  
Fax: (202) 260-4656  
Phone: (202) 260-3612  
Email: [lemmons.clint@epamail.epa.gov](mailto:lemmons.clint@epamail.epa.gov)

Contact the SDWIS/STATE development team at the following address:

EPA Systems Development Center  
6565 Arlington Blvd.  
Falls Church, VA 22042  
Fax: 703-292-6390

Contact the Systems Development Center (SDC) at:

703-292-6000

Contact the User Support Hotline at:

703-292-6298

## Chapter 2: Getting Started

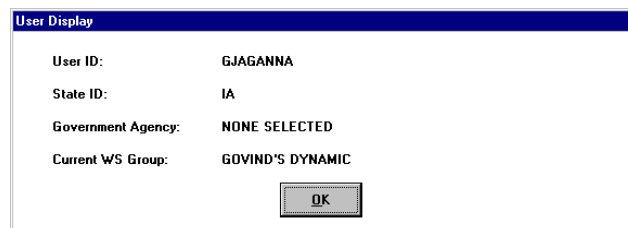
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### Startup and Basics

Chapter 2 provides information on how to use the SDWIS/STATE application. As you gain familiarity with the main features, you can use the information in this chapter for reference in daily work. Chapter 2 reviews fundamental techniques for using SDWIS/STATE, and orients you to primary controls, filter and sort dialog boxes, online Help, user privileges, general window information, and viewing SDWIS/STATE data via MS Access.

After SDWIS/STATE is installed, start Windows and open the SDWIS/STATE program group or SDWIS/STATE 6.1 icons. There is no login icon displayed for SDWIS/STATE, but an Oracle logon prompt will appear requesting a User ID and password once you try to use the application. Contact your SDWIS/STATE Administrator or Oracle Database Administrator (DBA) for help with logging in to Oracle.

Select **Detail/Display User ID** from the main window of any component to display current user information (Exhibit 2-1). The User Display window allows the user to view User ID, State ID, Government Agency, or Current WS Group. In order to view your water systems, make either a Government Agency or Water System Group current. This means that you are telling SDWIS/STATE to focus your view of water systems by either a Government Agency (typically the primacy agency when you first set up your database) or a Water System Group that you create. If you do not select either a Government Agency or Water System Group as current, SDWIS/STATE will not be able to list your water systems.




**Exhibit 2-1.** Display User ID

### User Interface

SDWIS/STATE uses a Graphical User Interface (GUI) that enables you to perform tasks in the application by selecting graphical images with a mouse. To access an area of the application, double-click on an icon. For business systems, the main window appears with several dropdown menus. **File/Exit** allows users to exit the area.

The primary controls employed in the application's interface are the cursor, windows, fields, dropdown lists, pick lists, check boxes, scroll bars, and buttons. This document illustrates the use of these primary controls and the process used to navigate through many of the application's windows. You are encouraged to use this guide in conjunction with the application and the online Help. Common windows and primary controls used throughout the application are explained and illustrated below.

Common windows appear later in this document in minimized form. Exhibits shown in this document that contain minimized windows are not intended to illustrate specific text but rather the navigation process. All exhibits present windows from SDWIS/STATE running on Windows 95. Refer to the application for a full view of these windows using the processes outlined in this document.

The *cursor* appears as a small pointer () that is used to select a graphical object. When it appears as a flashing vertical line in an editable field, you can use it to enter text.

Throughout the application, read-only fields appear on windows to display previously selected information or data calculated by the application and not entered by the user. Online Help is not available for fields that cannot be edited. In many cases, the fields are explained in the window-level Help.

A *window* is an area on a screen in which information, objects, and actions are presented. The most common windows and dialog boxes that appear in the application include the following: main windows, selection list windows, maintenance list windows, maintenance windows, search, filter, sort, and informational dialog boxes, and message boxes. They are explained in greater detail below.

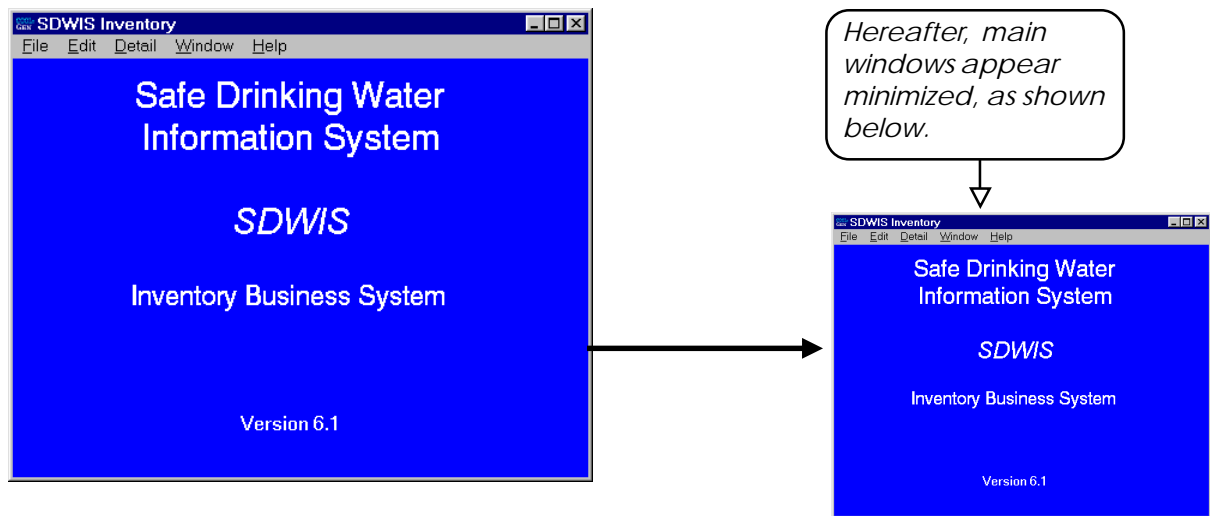
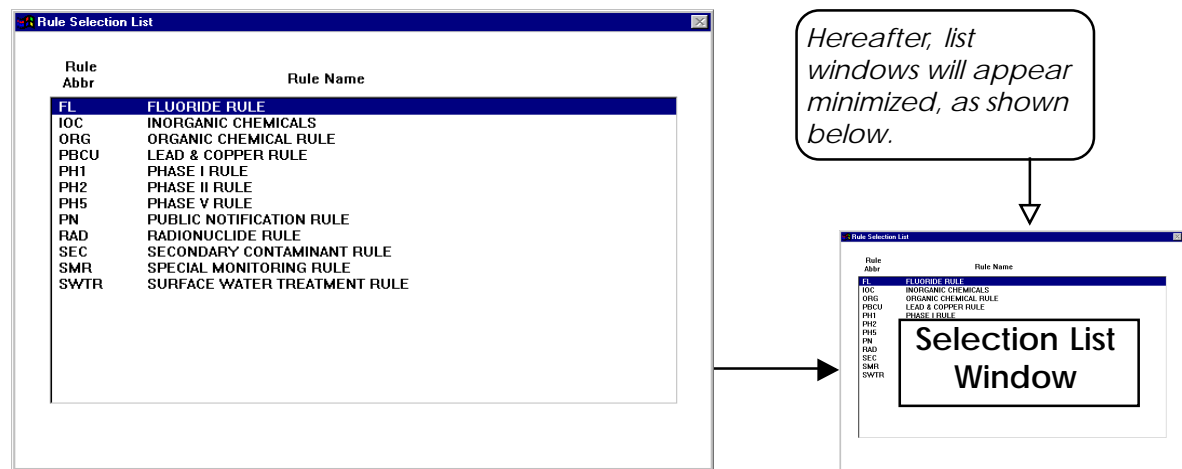
### **Main Windows**

Main windows are always colored blue and contain a menu used to navigate to specific areas of the application. A main window exists for most components of SDWIS/STATE. Exhibit 2-2 illustrates the *Inventory* main window. Other main windows appear in the document as minimized window icons. The object to the right in Exhibit 2-2 illustrates a minimized main window.

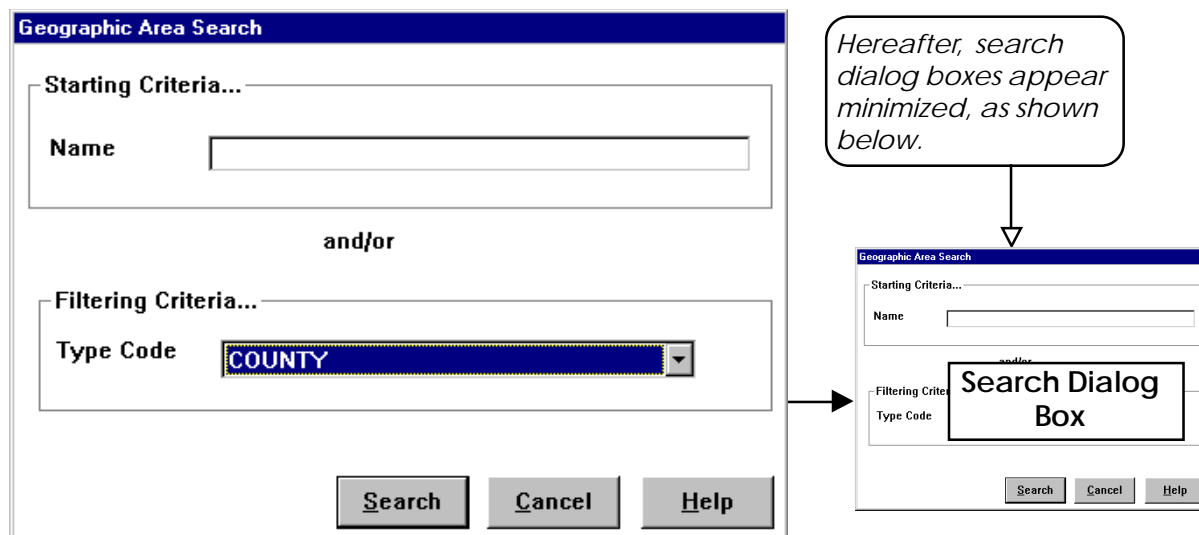
### **Selection List Windows**

Selection List windows display lists of related information from which you can select a record by highlighting an entry in the list and clicking on the **Select** button, selecting an option from a menu, or double-clicking an entry in the list. Exhibit 2-3 shows an example of a Rule Selection List window and its minimized window.



**Exhibit 2-2.** Introducing Minimized Main Windows**Exhibit 2-3.** Introducing Minimized List Windows**Search Dialog Boxes**

The application allows you to search for information by using search dialog boxes (Exhibit 2-4). These dialog boxes contain data entry fields for entering search criteria and a **Search** button for the search. If you make an invalid entry in a field or if no information matching the criteria is found, you are informed and returned to the search dialog box to refine or change the search criteria.



**Note:** You can enter the first few letters of a name in the data entry field, press the **Tab** key, and the application will retrieve the nearest match.

**Exhibit 2-4.** Introducing Minimized Search Dialog Boxes

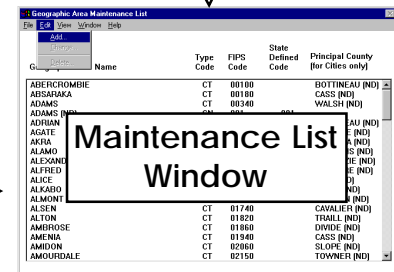
**Maintenance List Windows** Maintenance list windows allow you to select an item from the list to change or delete. You may also select **Edit/Add** to enter a new item (Exhibit 2-5).

On selected list windows, record selection tools in SDWIS/STATE include *filter* and *sort* capabilities. After conducting a search of the entire database, you may retrieve up to 1,000 rows in your list. To filter the records in your list, select **View/Filter**. The Filter Parameters dialog box provides some data entry fields in which you can enter preferred values to limit the number of rows you received in your initial search.

The Filter Parameter dialog box shows the selected parameter on the left and allows you to enter the criteria on the right. If the selected criterion is alphanumeric (e.g., Water System No.), the criterion displays in a read-only field in the upper-left corner. If the selected criterion is a date/date range (e.g., Milestone Date Range), the criterion displays in a read-only field in the lower-left corner. You can also sort on any of the columns in your list (Exhibit 2-6).

Name	Type Code	FIPS Code	State Defined Code	Principal County (for Cities only)
ABERCROMBIE	CT	00100		BOTTINEAU (ND)
ABSARAKA	CT	00180		CASS (ND)
ADAMS	CT	00340		WALSH (ND)
ADAMS (ND)	CN	001	001	
ADRIAN	CT	00620		BOTTINEAU (ND)
AGATE	CT	00780		ROLETTE (ND)
AKRA	CT	00860		PEMBINA (ND)
ALAMO	CT	00940		WILLIAMS (ND)
ALEXANDER	CT	01180		MCKENZIE (ND)
ALFRED	CT	01340		LAMOURE (ND)
ALICE	CT	01420		CASS (ND)
ALKABO	CT	01500		DIVIDE (ND)
ALMONT	CT	01700		MORTON (ND)
ALSEN	CT	01740		CAVALIER (ND)
ALTON	CT	01820		TRAILL (ND)
AMBROSE	CT	01860		DIVIDE (ND)
AMENIA	CT	01940		CASS (ND)
AMIDON	CT	02060		SLOPE (ND)
AMOURDALE	CT	02150		TOWNER (ND)

Hereafter, maintenance list windows appear minimized, as shown below.



**Exhibit 2-5. Introducing Minimized Maintenance List Windows**

Violation Maintenance List

FileEditViewWindowHelp

Search

Sort

Filter by ▶

Refresh

Violation No.	Status	Compliance Period End Date	Water System No.	Water System Name
1999 2		07/01/1999	ND9876543	SEVEN CORNERS
1999 2		06/30/1999	ND7654321	OLYMPIA PARK
1999 4		06/30/1999	ND5885648	WINTERGREEN
1999 27		06/16/1999	ND3900001	ABERCROMBIE CT
1999 1		10/31/1999	ND9876543	SEVEN CORNERS
1999 1		04/30/1999	ND7654321	OLYMPIA PARK
1999 1		03/15/1999	ND4711440	AMOCO PETROLE
1999 1		09/30/1998	ND2926332	CONGRESSIONAL
1999 1		08/31/1998	ND3900001	ABERCROMBIE CT
1999 28		08/31/1998	ND3900001	ABERCROMBIE CT
1999 3	P 12	07/01/1998	ND0501127	ALL SEASONS WU
1999 1	V 01	1003 07/01/1998	ND0501127	ALL SEASONS WU
1999 1	V 01	0100 04/01/1998	ND3411308	ADM CORN PROCE
1999 1	V 01	0100 06/01/1996	ND0100476	HETTINGER CITY
1999 1	R 01	1006 02/28/1989	ND2700006	ALEXANDER CITY
1999 1	V 41	1008 02/01/1989	ND2711221	ALEXANDER WATI

The number of records matching the search criteria

20

The number of records actually shown

20

**Sort Order Selection**

First Order Sort: Violation No. Fed Fiscal Year (Asc/Desc)

Second Order Sort: Violation No. External Sys Number (Asc/Desc)

Third Order Sort: Status (Asc/Desc)

OK Cancel Help

**Filter Parameter**

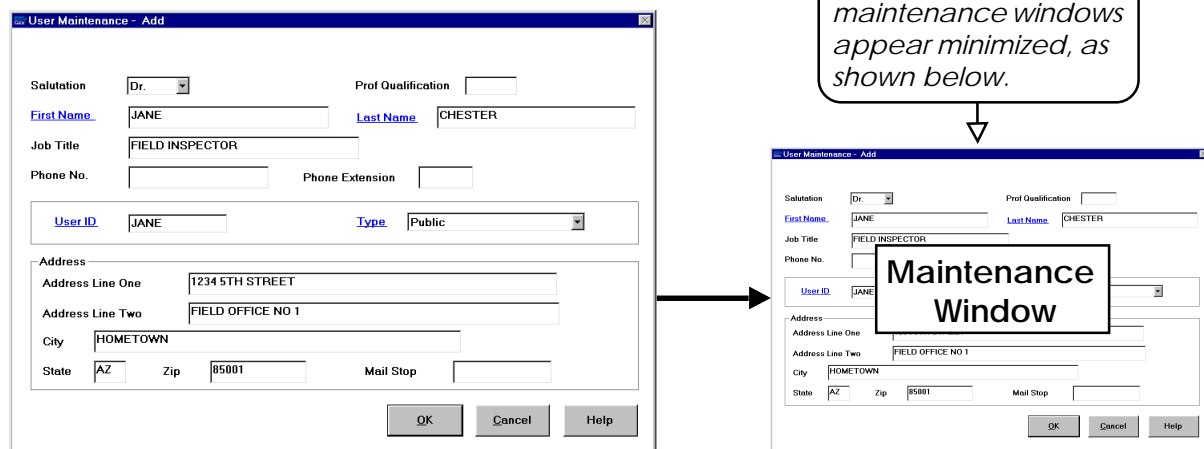
Analyte Name:

OK Cancel Help

**Exhibit 2-6. Filter and Sort Dialog Boxes**

## Maintenance Windows

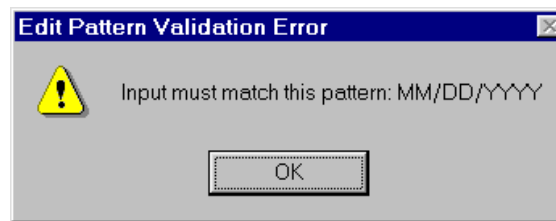
Maintenance windows display either an Add Maintenance action or a Change Maintenance action depending on the selection of **Add** or **Change** from the Maintenance List. Use the maintenance window to enter information about a particular item to be maintained in the data-base. Each maintenance window allows a unique set of data to be maintained. Each maintenance window, therefore, differs throughout this document and the application. Most maintenance windows contain buttons labeled **OK**, **Cancel**, and **Help**. Exhibit 2-7 shows a maintenance window and the type of data that it might contain. Pressing **OK** typically adds or changes the selected record and displays it in a Maintenance List.



**Exhibit 2-7.** Introducing Minimized Maintenance Windows

## Message Boxes

Message boxes are usually small windows that identify missing data or notify you that entered data falls outside the accepted range. The three types of message boxes are *warning*, *informational*, and *error* messages. Warnings and informational messages alert you to important criteria that affect data quality. Error messages indicate a failure to meet data entry criteria. You may proceed in spite of warnings and informational messages but not after an error message. Exhibit 2-8 includes examples of message boxes that may appear while using SDWIS/ STATE.



**Exhibit 2-8.** Introducing Error Messages

## General Window Information

At the top of each window is a *title bar* (Exhibit 2-9). The title bar indicates the window's name. Only the active window can be manipulated. The title bar of the active window is always a different color from the other windows.

Sometimes a *menu bar* is located directly below the title bar. The menu bar offers application-specific options such as **File**, **Edit**, **View**, and **Help**.

Many windows also feature a *heading*. The heading, located immediately below the title bar or menu bar, displays basic information on currently selected water systems, laboratories, etc.


A *field* is an area in which you can enter data. In SDWIS/STATE, a data entry field appears as a white box on the window. To enter data in the field, hit the **Tab** key until the cursor moves to the field, or click on it with the mouse. A blue, underlined field name means the field requires you to enter a value before you can proceed to another window.

A *dropdown list* provides a set of predetermined, mutually exclusive options from which you can choose. Dropdown lists reduce the amount of data entry and ensure that you enter only valid values. A dropdown list is indicated by a down arrow at the side of the entry box. If you click on the arrow, a list of options drops down. Select one of the options by clicking on it with the mouse or moving up or down the list with the arrow keys. Although the selection can be changed, you cannot add, change, or delete options in a dropdown list.

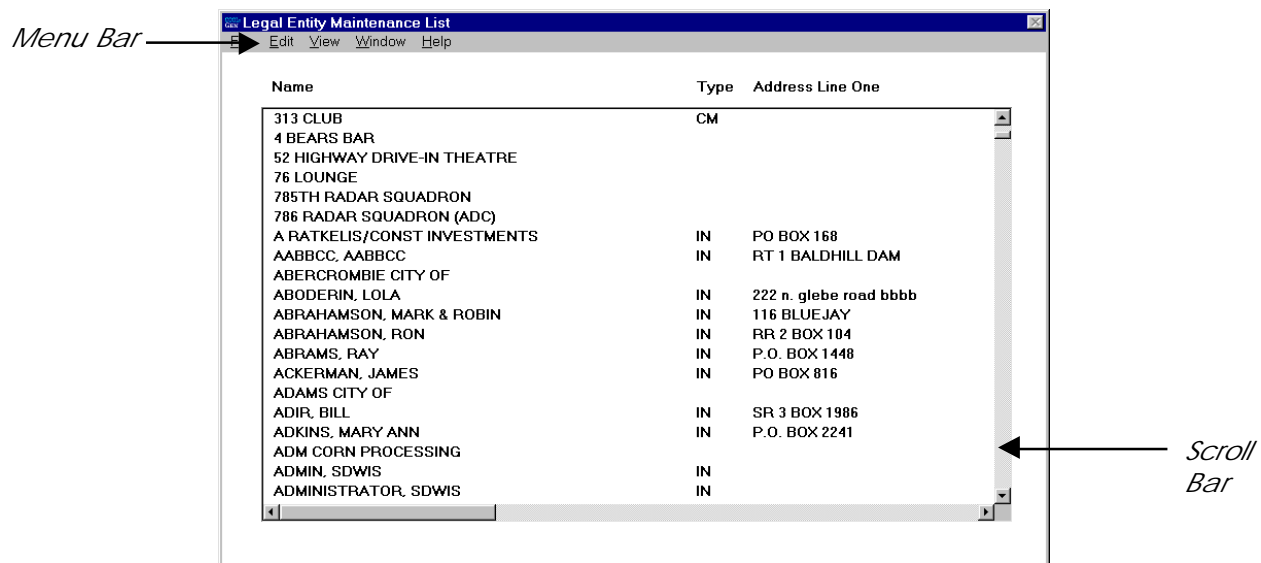
A *button* allows you to perform the corresponding action. The following standard buttons appear repeatedly throughout the application.

- |               |  |
|---------------|--|
| <b>OK</b>     | Use the <b>OK</b> button after entering all the necessary information. The information will update the database, and the application will advance to the next window or return to the previous maintenance list. |
| <b>Cancel</b> | Use the <b>Cancel</b> button to cancel any information entered about an item that should not be added to the database. Click on this button to exit a window without saving any changes to the information.      |

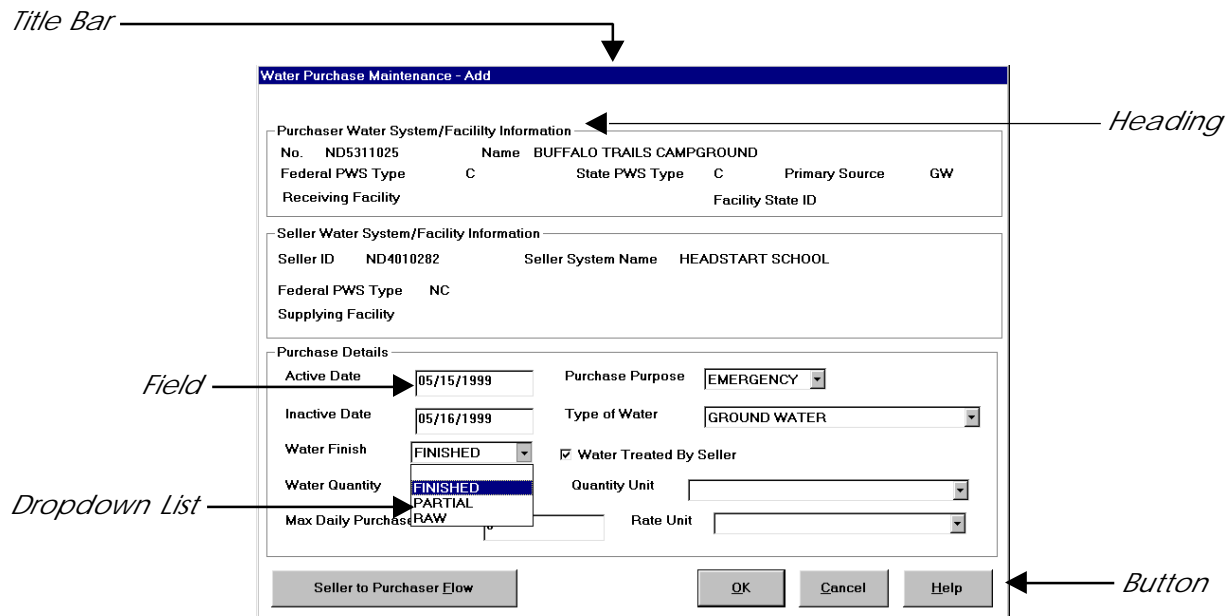
**Help** Access the online **Help** system by clicking on the **Help** button.

**Go To** () Use the **Go To** button to retrieve a list of valid selections stored in one or more tables in the database. The selected item populates a field.

A *scroll bar* is used to move either vertically or horizontally along a list that is too long to fit in a window. A scroll bar appears as a gray rectangle on the window. Inside the bar is a small box, and at either end of the bar there is a small box with an arrow on it. Move along the scroll bar by clicking on the plain box and moving in the appropriate direction, clicking and holding with the mouse on either side of the plain box, or clicking and holding on either of the arrow boxes.



**Exhibit 2-9.** Identification of Terms Diagram

**Exhibit 2-9.** Identification of Terms Diagram (cont.)

## Online Help

SDWIS/STATE Help offers a quick way to find information about a Windows application, such as how to perform a particular task or to define a particular field. Within a Help topic, there may be one or more links to more information, which you can single-click on to display a new topic. These links appear as green text. Within graphics, these links are available whenever a pointing hand (☞) appears. In SDWIS/STATE, online Help is context-sensitive. It is available from any title bar, button, editable field, or check box, when you tab to it or place the pointer on it and then press the **F1** key (Exhibit 2-10). Help is not available for uneditable or read-only fields.

## Annotating a SDWIS/STATE Help Topic

You can add comments to a Help topic by selecting **Edit/Annotate** in any Help file. When you annotate a topic, Help places a paperclip icon to the left of the topic title as an indication that an annotation exists (Exhibit 2-11).

## SDWIS/STATE Help Glossary and Index

In SDWIS/STATE, the **Glossary** button accesses an alphabetical listing of all topics in the Help system. The **Help Topics** button accesses an index of all topics and a keyword search capability in the portion of the SDWIS/STATE application that you are using.

## Navigating SDWIS/STATE Help

On SDWIS/STATE windows with menu bars, select **Help/Extended Help** to access window-level Help. On SDWIS/STATE windows, Help is not available for **Help/Keys Help**. This menu item applies to applications with keyboard-specific functions and commands. **Help/Help Index** accesses the Contents page of SDWIS/STATE for the portion of the application that you are using.

When you first access context-sensitive Help, topics are available for the section of the application in use. You can move to a Help file covering all of the application by clicking on the water drop icon (Exhibit 2-10) or by selecting **SDWIS/STATE Help/All SDWIS/STATE Components**.

For more information on annotating topics or other ways of getting the most from Help, follow these two steps: (1) from any window level Help topic, select **SDWIS/STATE Help/All SDWIS/STATE Components** (Exhibit 2-10) to flow to the SDWIS/STATE Help Contents page of all components of SDWIS/STATE Help; and (2) click on the green **How To Use SDWIS/STATE Help** link. Use the **Back** button, the arrow buttons on the toolbar, and green links in the text to navigate through Help for all of SDWIS/STATE. The SDWIS/STATE Help Contents page has links to the Help for all the other components of the software.

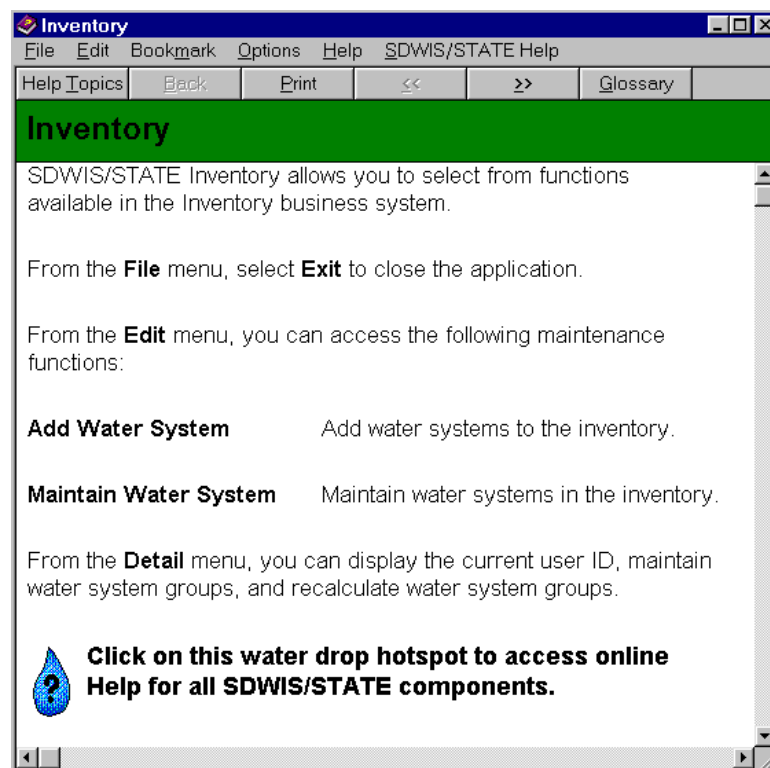
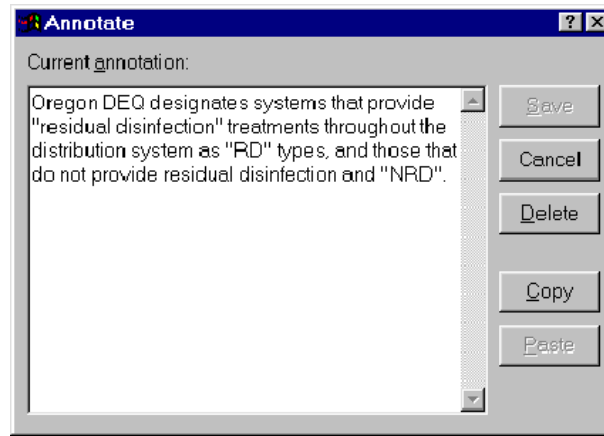


Exhibit 2-10. Example of Online Help





**Exhibit 2-11.** Annotate Online Help

## Helpful Hints

Application single- and double-click consistency is being improved. In some cases—usually on slower workstations with less RAM—double-clicking may operate incorrectly. Completely depress the left mouse button and let it return fully between clicks.

Data entry of water system numbers may sometimes be redundant. Use **<Ctrl + Insert>** or **<Ctrl + C>** to copy a text field and **<Shift + Insert>** or **<Ctrl + V>** to paste it in the appropriate field.

Use the key in Exhibit 2-12 as a guide for the remaining exhibits in this document.

## User Privileges

User access is controlled by the SDWIS/STATE Administrator and the Oracle DBA. The SDWIS/STATE Administrator defines each user as one of the following categories: *Public*, *Data Entry*, *Compliance*, or *SDWIS/STATE Administrator*. The DBA also controls access by establishing read/write limitations by user category. Exhibit 2-13 illustrates the SDWIS/STATE component privileges accorded to each user category. If you have any questions about your access privileges, see your SDWIS/STATE Administrator.

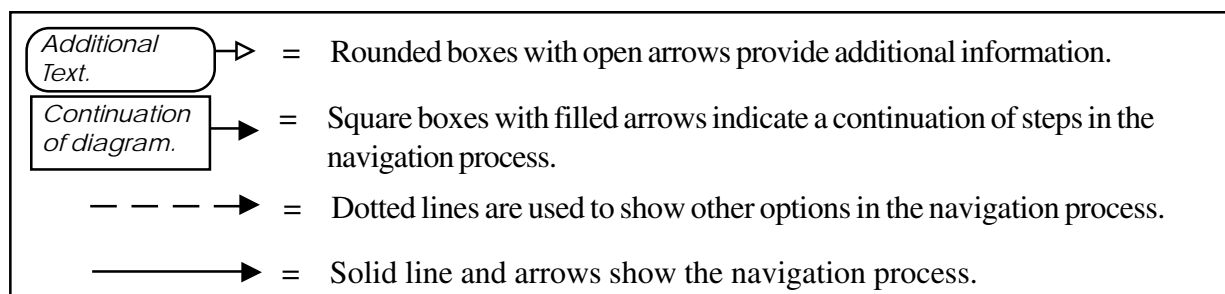
All user categories can access the *Legal Entity*, *Inventory*, and *Sampling/Sampling via EDI* components. The Oracle DBA may limit public users to read-only access. Only compliance users can use the *Monitoring and Noncompliance Determination* and *Enforcement* components. Before compliance users can enforce a rule and create violations against monitoring periods and sample schedules and enforcement actions, they must be granted authority to enforce the rule by the SDWIS/STATE Administrator.

## Viewing SDWIS/STATE Data via MS Access

Clicking on the *View SDWIS/STATE Data via MS Access* icon invokes a file that helps you to view the structure and contents of your SDWIS/STATE Oracle tables, and gives you a ready-made infrastructure in which to create queries and reports about the data in your SDWIS/STATE Oracle tables. The file, called **RELATION.MDB**, is an MS Access database file that contains tables and relationships attached to a read-only view of each of the Oracle tables. No data in any original SDWIS/STATE Oracle table can be changed or deleted when using **RELATION.MDB**.

As SDWIS/STATE updates the Oracle tables, **RELATION.MDB** enables you to view the data changes to the contents of the Oracle tables. Under menu item **Tools/Relationships...** **RELATION.MDB** contains representations of some of the existing relationships between SDWIS/STATE Oracle tables. These representations are provided as a starting point from which you may wish to further customize your view of the Oracle tables by adding new tables to the Relationship View or by expanding the number of relationships that are drawn among the tables. Use the *SDWIS/STATE Online Data Dictionary* as the source for relationship information among SDWIS/STATE Oracle tables.

Once you open **RELATION.MDB**, you will be asked to log into Oracle. Use *MSAccess* as both your user ID and password. (Consult with your SDWIS/STATE Administrator if you have more questions about this.) While **RELATION.MDB** is delivered with linked views to the most frequently used and viewed SDWIS/STATE Oracle tables, you may opt to link to a table that is not on the list. To link, simply select **File/Get External Data/Link Tables...** and using your Oracle ODBC connection on the Link dialog box retrieve your list of candidate Oracle tables. Scroll down to the list of table names that begin with the word "MSACCESS." Select the desired table(s) for linking. You may wish to use **RELATION.MDB** to create your own queries and reports to view the contents of one or more SDWIS/STATE Oracle tables.



**Exhibit 2-12.** Key to Exhibits

	System Admin	Inventory	Legal Entity	Monitoring	Sampling	Sampling via EDI	Migration to SDWIS/FED	Migration to SDWIS/STATE	Enforcement
Public		✗	✗		✗	✗			
Data Entry		✗	✗		✗	✗			
Compliance		✗	✗	✗	✗	✗			✗
System Admin	✗	✗	✗	✗	✗	✗	✗	✗	✗

**Exhibit 2-13.** User Privileges



### Legal Entities

The *Legal Entities* component is the part of SDWIS/STATE that allows you to maintain information on the people and places associated with the Safe Drinking Water Program. This includes information about laboratories such as name, address, phone numbers, and points of contact as well as data about sample collectors. The application uses the term *legal entity* to define any individual, government agency, or other group (e.g., corporation) associated with a water system. The data on legal entities include names, addresses, phone numbers, and e-mail addresses. To link information about a legal entity to data in other areas of the application, you must first add a legal entity to this area of the application.

The types of legal entities currently supported include the following:

<b>Company</b>	An entity registered with a state, county, city, township, or other body that licenses businesses to perform services and charge fees. Companies are generally owned and operated by an individual or a corporation.
<b>Cooperative</b>	An entity owned by water system users. Cooperatives are often owned, managed, and operated by members who pay dues for services on a scheduled basis.
<b>Corporation</b>	An entity registered with a state, county, city, township, or other body that licenses businesses to perform services and charge fees. In general, a corporation is a group of people who obtain a charter granting them as a body certain legal powers, rights, privileges, and liabilities of an individual. A corporation can buy, sell, and inherit property.
<b>Government Agency</b>	In SDWIS/STATE, the classification Government Agency is intended to be limited to agencies such as a federal, state, county, city, or township agencies that <i>regulate</i> water system owners. In the real world, of course, government agencies also own water systems as well as laboratories, but the classification of Government Agency in SDWIS/STATE was <i>not</i> designed for this purpose. A government agency that only owns a water system or laboratory should not be entered as government agency. However, the water system it owns should be designated as government-owned in the Owner Type field in <i>Inventory</i> .
<b>Homeowners' Association</b>	An entity owned by the users of the water system similar to a cooperative, but with membership limited to individuals who own property within a subdivision or other local residential development. Homeowners' associations are often owned, managed, and operated by members that pay scheduled dues for services.

<b>Individual</b>	A person who has legal status within the definition of individual in a given law, rule, ordinance, or other legal document. Individuals often own companies and water systems. SDWIS/STATE users are also <i>Legal Entity - Individuals</i> . Each user is assigned specific privileges to use a given SDWIS/STATE component by the SDWIS/STATE Administrator and Oracle DBA.
<b>Non-Profit</b>	Typically a corporation that provides a service but does not make an intentional profit. Nonprofits are often funded by donations, sliding scale rates, or other fees that are sufficient sources of income for the corporation to pay its operating expenses but not enough to make a profit. They are typically registered with a corporation commission much like a typical for-profit corporation or a rate-set utility would be, and rates are controlled accordingly.
<b>Rate-Set Utility</b>	Typically a corporation that provides a service for a profit. Rate-set utilities are funded by payment of fees that are set at specific rates by a government agency such as a corporation commission. Rates that are considered fair to the customer are set by the agency and are also sufficient for the utility to remain financially viable, thereby providing continuous and adequate service. They are typically registered with a corporation commission much like a typical for-profit corporation would be.
<b>Trust</b>	An entity funded by sources that contributed before the entity's inception. These funds can be donations or endowments and are often maintained by dividends from investments of the original funds.

Three options are available under the *Legal Entities* **Edit** menu item: **Legal Entity**, **Collector**, and **Laboratory** (Exhibit 3-1). The first two, **Legal Entity** and **Collector**, bring the user to the same area of the application, i.e., *Legal Entities*. **Collector** enables you to add and maintain information about sample collectors while the third option, **Laboratory**, allows you to add and maintain information about laboratories.

## Legal Entity Maintenance

Select **Edit/Legal Entity** to access a search window. Once you perform the search, the Legal Entity Maintenance List appears. You may proceed to add a new legal entity or change information pertaining to an existing legal entity. When you have completed additions or changes, select **OK**. For an example of a Legal Entity Maintenance window executing a Change Maintenance Action for a selected legal entity, see Exhibit 3-1.

Note that, if you are searching for a person, you may need to search on the person's last name or first name, depending on whether or not the person has been stored as Legal Entity Type "Individual." If the person has been stored as something other than Individual (including if no Legal Entity Type is yet assigned), you need to perform your search on the first name. Note, also, that there are two address fields as well as other information so that the user can discriminate among almost identical entities.

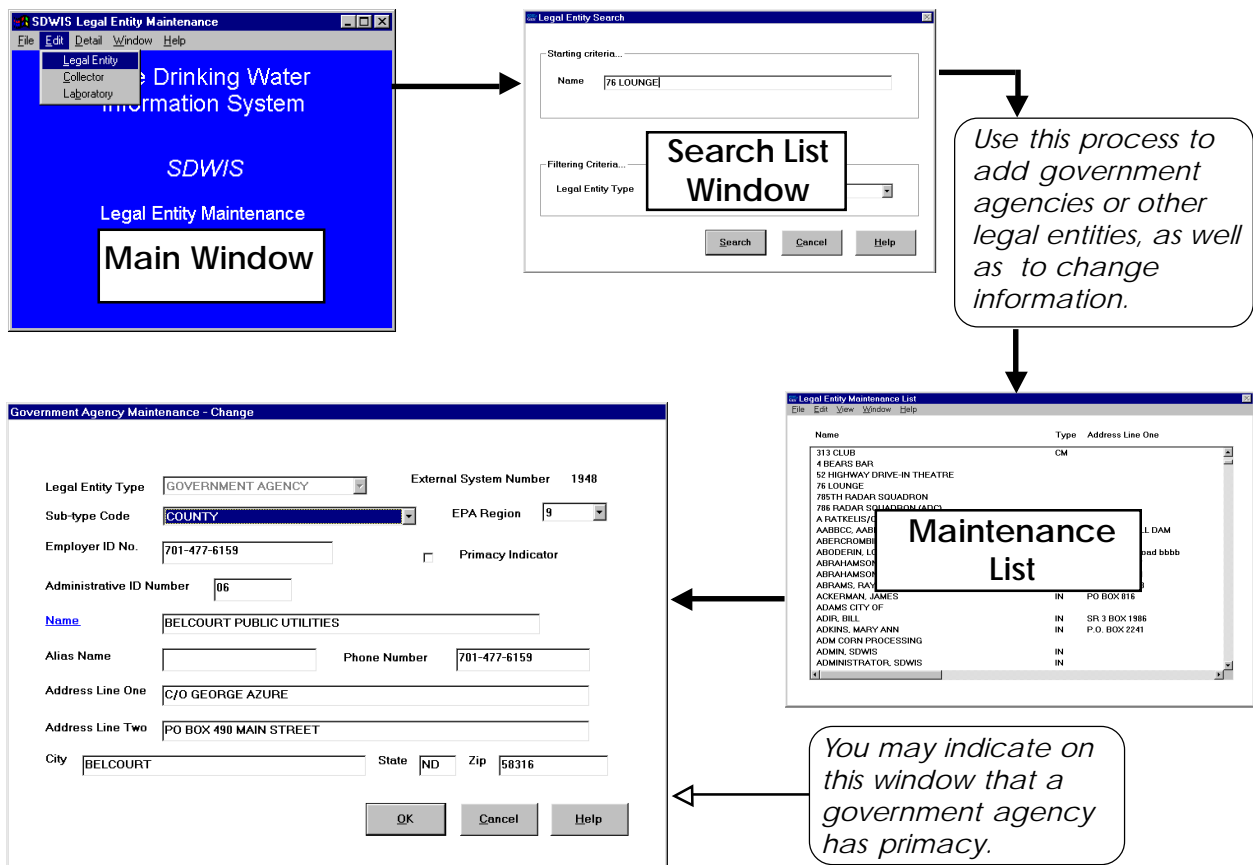


Exhibit 3-1. Legal Entity—Maintenance Action Process

## Defining the Primacy Agency

When maintaining government agencies, you can indicate that one agency has primary enforcement responsibility for water systems by checking the Primacy Indicator box. Only one agency may be marked as the primacy agency for your database, although other government agencies may be assigned as regulating agencies. *At least one government agency must be marked as the primacy agency for SDWIS/STATE to work properly.*

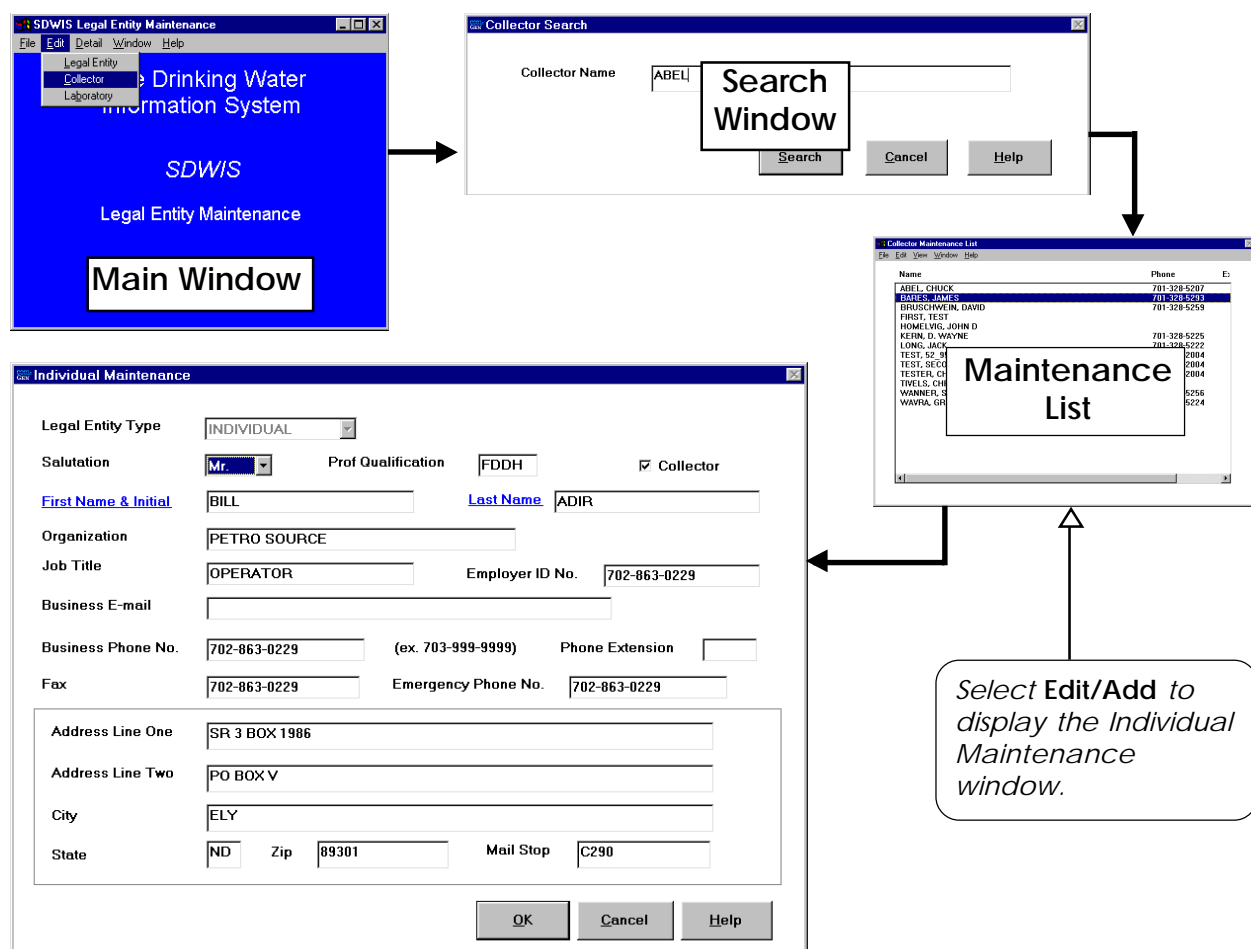
## Uniqueness

Government agencies and legal entities that are not Individuals are uniquely defined by their name. New legal entities matching the name of a previously existing legal entity cannot be added. Individuals are uniquely identified by the combination of First Name and Last Name.

## Collector Maintenance

Collector maintenance information is optionally available to states that choose to maintain it. Collectors are maintained as “individual” legal entities. You can build up a cadre of individuals who can be further assigned or identified as collectors, or lab/water legal entity Points of Contact. Once you enter an individual, he or she can be used in many places in the software. The second menu item under **Edit** is **Collector**. Collectors can be added and maintained through the **Legal Entity** or **Collector** menu items. *In general, use **Legal Entity** to add and edit collector information if you are not certain how to spell the collector’s name or do not know whether the collector already exists in the database.* Double-clicking on a row in the Collector Maintenance List brings up the Individual Maintenance window for that collector (Exhibit 3-2). The Collector check box will be valued.

To *add* a new collector, if you are certain the individual does not exist in the database, click on the **Search** button without entering any information in the Collector Name field. The Collector Maintenance List appears. Select **Edit/Add**, which invokes the Individual Maintenance window. Add the information you want about the collector. As indicated by the window name, you have added a new legal entity of

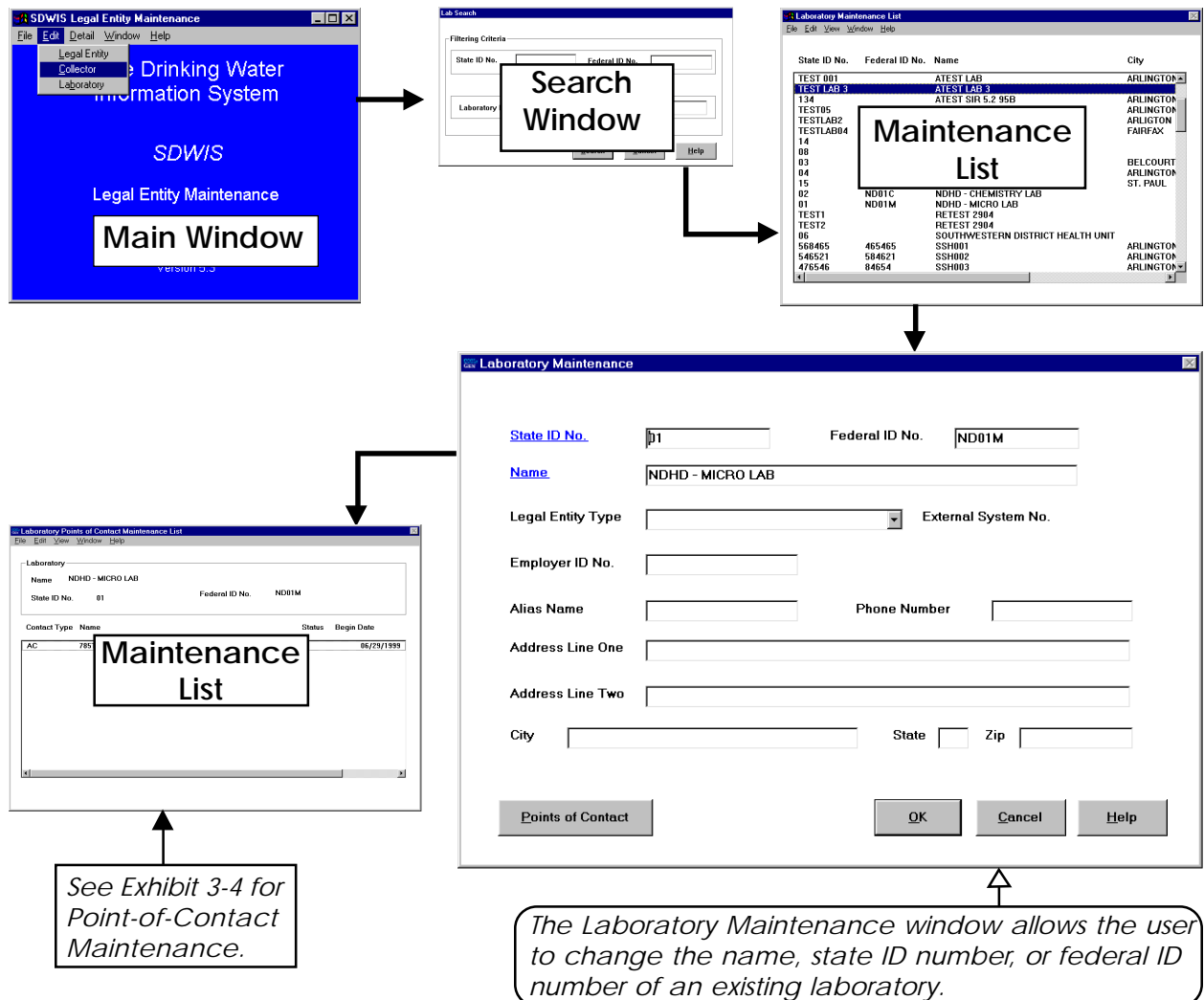


**Exhibit 3-2. Collector Maintenance—Maintenance Action Process**

type “Individual” and marked that individual as a collector. As mentioned above, if you are not certain whether the individual already exists in the database, use the **Legal Entity** menu item to add the collector.

To *change* information about an existing collector, if you are certain the person has been stored as a collector, enter part or all of the last name of the collector and click on the **Search** button. When the Collector Maintenance List appears, select the collector you want to edit and select **Edit/Change** or double-click on the collector row.

To *delete* a collector, select a collector and select **Edit/Delete**. You cannot delete a collector who is linked to one or more samples or who is linked (as an individual) to one or more other items in the database (e.g., a water system or a laboratory).



**Exhibit 3-3. Laboratory Maintenance Action Process**

## Laboratory Maintenance

Laboratories can include testing facilities, such as a treatment plant, located in a water system facility. Select **Edit/Laboratory** to access the Lab Search window. Enter a laboratory state or federal ID number, name, or no filtering criteria and select **Search**. Once you perform the search, the Laboratory Maintenance List appears (Exhibit 3-3). Add a new laboratory by selecting **Edit/Add** without highlighting an existing laboratory. To change information pertaining to an existing laboratory, highlight the laboratory in the list, and select **Edit/Change**.

The Laboratory Points-of-Contact Maintenance—Maintenance Action Process allows the designation of the active contact type(s) (Exhibit 3-4). Points of contact are legal entities of type Individual such as owners, administrative, emergency, financial, sampling, legal, and operator contacts. The administrative contact record is noteworthy because the address and phone number for the administrative contact is the main address and phone number for the laboratory. The administrative contact should have the same name and address as the laboratory.

The first time you go to the Laboratory Points of Contact Maintenance List after adding a new laboratory, an Administrative Contact (AC) Point of Contact will exist for the laboratory. SDWIS/STATE automatically creates a contact when you add a new laboratory to the database.

The diagram illustrates the workflow for maintaining laboratory points of contact. It consists of three main windows and a callout instruction.

**Window 1: Laboratory Maintenance**  
This window contains input fields for:  
- State ID No. (01)  
- Federal ID No. (ND01M)  
- Name (NDHD - MICRO LAB)  
- Legal Entity Type (dropdown)  
- External System No.  
- Employer ID No.  
- Alias Name  
- Phone Number  
- Address Line One  
- Address Line Two  
- City  
- State  
- Zip  
Buttons at the bottom: Points of Contact, OK, Cancel, Help.

**Window 2: Laboratory Points of Contact Maintenance List**  
This window displays a list of contacts for the selected laboratory.  
- Laboratory Name: NDHD - MICRO LAB  
- State ID No.: 01  
- Federal ID No.: ND01M  
- Contact Type: AC  
- Name: 785TH RADAR SQUADRON  
- Status: A  
- Begin Date: 06/29/1999  
Buttons at the top: File, Edit, View, Window, Help.

**Window 3: Laboratory Points of Contact Maintenance**  
This window shows detailed information for the selected contact.  
- Laboratory Name: NDHD - MICRO LAB  
- State ID No.: 01  
- Federal ID No.: ND01M  
- Contact Name: 785TH RADAR SQUADRON  
- Alias Name  
- Legal Entity Type  
- Phone: 701-524-1000  
- Address Line One  
- Address Line Two  
- City: FINLEY  
- State: ND  
- Zip: 58230  
- Please Choose Active Contact Types:  
 - ☒ Administrative  
 - ☐ Financial  
 - ☐ Legal  
 - ☐ Owner  
 - ☐ Emergency Contact  
 - ☐ Sampling  
 - ☐ Operator  
 - ☐ All of the Above  
Buttons at the bottom: OK, Cancel, Help.

**Callout Instruction:**  
From the Laboratory Points of Contact Maintenance List select **Edit/Add** (Exhibit 3-3)

**Exhibit 3-4. Laboratory Points of Contact Maintenance**





Inventory

## Water Systems

Water systems are established and maintained in the *Inventory* and *Enforcement* components. In addition, water system groups can be established here and throughout the application in *System Administration*, *Sampling*, and *Monitoring and Noncompliance Determination*. Water system groups are discussed later in this chapter.

A Public Water System (PWS) is the highest level of water system defined in the regulations. A PWS serves piped water for human consumption to at least 25 persons, or to at least 15 service connections daily, for at least 60 days per year.

In SDWIS/STATE a water system also must have an active water source, such as a well, intake, or consecutive connection. Water systems are further divided into regulatory classifications based on the type of service area (e.g., residential, non-residential) and the period of service (e.g., year-round, seasonal).

Non-Public (NP) water systems do not meet PWS criteria and are normally not regulated under federal rules.

## Water System Classification

Water systems are classified according to rules developed by EPA and each state. Water systems fall into the two broad categories: public and NP. A PWS can be further classified as one of the following:

<b>Community (C)</b>	Serves at least 15 service connections used by year-round residents or regularly serves 25 year-round residents.
<b>Non-Transient Non-Community (NTNC)</b>	Serves at least the same 25 nonresidential individuals during 6 months of the year.
<b>Transient Non-Community (NC)</b>	Regularly serves at least 25 nonresidential individuals (transient) during 60 or more days per year.

The classifications above are based on information in each of the following six areas:

1. Quantity and type of population served
2. Number of days served (annual operating period)
3. Number of service connections
4. Activity status of the water system
5. Sources of water
6. Regulating agency assignment

The regulatory threshold values for each classification are stored under the *System Administration* component. From the *System Administration* main menu, select **Edit/Primacy Rules**. The threshold values for federal and state classifications are initially the same. Threshold values for *federal* classification in SDWIS/STATE cannot be changed by the state, but threshold values for *state* classification can be updated by the SDWIS/STATE Administrator to reflect state regulations. When information in any one of the six areas mentioned above is changed for a water system, the application evaluates the changes against the recorded thresholds to determine the federal and state classifications for the water system. If the information in these six areas indicates more than one possible classification, the Water System Type Code Selection window appears, where you can override the default federal or state type code. This is called a *de minimus* case. This is the only time you can change the federal type code for a water system that is determined by the application. SDWIS/STATE limits the federal type code choices to those that are appropriate based on federal rules (see Appendix B for an example). You can always change the state type code in the Water System Type Maintenance window.

## How Wholesale Populations Are Handled

A wholesale population can consist of a residential, non-transient, or transient population or a population mix of these three types. Because SDWIS/STATE cannot always accurately determine which type(s) a wholesale population represents (based on state-specific requirements), it cannot always determine the type of PWS when a wholesale population is involved. Consequently, SDWIS/STATE allows you to select the proper federal and state PWS type code when a wholesale population is involved (i.e., the Water System Type Code Selection window appears and permits you to override the determination made by SDWIS/STATE).

In addition, because some states do not count the wholesale population when determining the TCR (Total Coliform Rule) monitoring requirements for a seller water system, SDWIS/STATE does not count the wholesale population when determining the TCR schedule for these water systems. Consequently, a PWS that only has a wholesale population will not have an associated TCR schedule. Also, wholesale populations are not counted by SDWIS/STATE when determining the Total Calculated Daily Population. This calculated population appears on the Water System Maintenance window and is the Retail Population reported to SDWIS/FED.

## Effects of Inventory Changes on TCR Sample Schedules

SDWIS/STATE may automatically create or change routine Total Coliform Rule (TCR) sample schedules based on changes to inventory information. Changes to any information in one of the six areas listed above may result in reclassification of a water system's federal type code. This new classification may also result in new TCR monitoring requirements for a water system. Based on the new monitoring requirements, a new TCR sample schedule may automatically be generated by the application. You should be aware of the possible inventory modification scenarios that can trigger a change to a TCR sample schedule.

The five scenarios describe the instances when a water system's federal PWS type or primary source type may change and, therefore, may result in a changed TCR sample schedule. At this time no changes automatically occur to non-TCR sample schedules.

### *Scenario One: Changing a Non-Public System to a Public System*

A water system's federal type might change from NP to public based on inventory changes. In this case, the non-public system may have no existing sample schedule. If the water system in your database previously had no schedule (e.g., it was NP and is now public), the automatically generated routine TCR sampling schedule will have a begin date of 01/01/1991, even though your Water System Activity Date is more current than this. The software gives 01/01/1991 as the default begin date to all new routine TCR sampling schedules. Once a routine TCR sampling schedule exists and is closed and then a new schedule generated, its Begin Date then reflects the next TCR monitoring period after the one in which the activity takes place.

### *Scenario Two: Changing the Type of a Public System*

A water system's federal type might remain public but change among C, NC, or NTNC based on inventory changes. In this case, the application closes the public water system's current TCR sample schedule as of the end of the current monitoring period. It creates a new sample schedule (monthly or quarterly based on the new monitoring requirement) and sets the begin date as the first day of the next appropriate monitoring period (usually the first day of the following month).

If the reclassification causes the water system to change from a monthly to a quarterly TCR sample schedule, the end date of the current sample schedule is set to the last day of the current monthly monitoring period, and the new quarterly schedule has a begin date equal to the first day of the month of the next calendar quarter. If the reclassification causes the water system to change from a quarterly to a monthly sample schedule, the end date of the current sample schedule is set to the last day of the current quarterly monitoring period, and the begin date of the new schedule is set to the first day of the month that follows the current calendar quarter. As a general rule, whenever the PWS type changes, you should review the TCR schedules created by the application to make sure they are correct. See Appendix C for more information on TCR sample scheduling.

Either of these reclassifications (i.e., change from C to NTNC/NC or vice versa) requires you to disassociate inappropriate monitoring periods from the water system and to associate appropriate ones. For example, a change from C to NTNC/NC requires you to disassociate future monthly monitoring periods and associate future quarterly monitoring periods to the water system.

### ***Scenario Three: Changing a Public System to a Non-Public System***

A water system's federal type might change from public to non-public based on inventory changes. In this case, the application closes the water system's current sample schedule at the end of the current monitoring period. Since the water system has been reclassified as non-public, no new monitoring requirement exists and, therefore, the application creates no new sample schedule.

### ***Scenario Four: Changing the Primary Source Type for a Small Noncommunity System***

If the primary source type of an existing small noncommunity system (one that serves less than 1,001 population) changes from Surface Water (or Groundwater UDI Surface Water) to Groundwater, the TCR sample schedule for the system normally would change from a monthly schedule to a quarterly schedule. If, on the other hand, the primary source type for a small noncommunity system changes from Groundwater to Surface Water (or Groundwater UDI Surface Water), the TCR sample schedule normally changes from quarterly to monthly. Monitoring Period associations with the PWS also need to be changed to reflect the new frequency of monitoring.

### ***Scenario Five: TCR Sample Schedules for PWS with Multiple Annual Operating Periods***

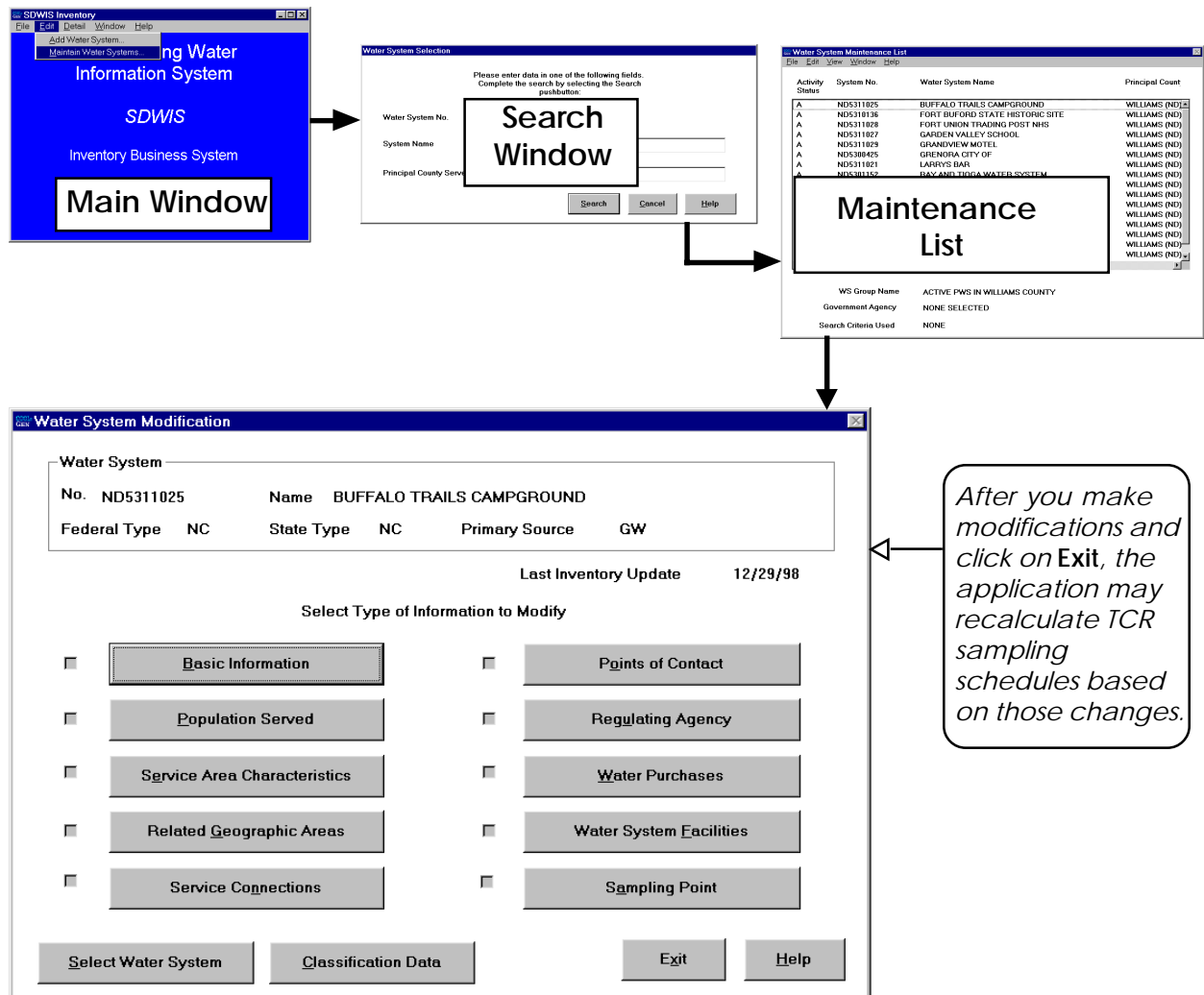
In addition to the four scenarios just described, another inventory situation affects the TCR schedules created by the application. Specifically, when more than one annual operating period is entered for a PWS, the application may not always create the appropriate TCR sample schedule(s). Always check the TCR sample schedules after adding or maintaining multiple annual operating periods for a PWS to ensure that correct state-specific TCR sample schedules were created.

## **Adding New Water Systems**

Creating new water systems in SDWIS/STATE requires entering some basic information. Make sure that you enter at least one Administrative contact for each water system. This is done in the *Legal Entities* component. Administrative contacts are *individual* legal entities. Once they are created in *Legal Entities*, they can be assigned as Water System Points of Contact in the *Inventory* component (Exhibit 4-11). *Also, do not use an apostrophe in the water system name.* Using an apostrophe may cause problems when running preliminary TCR Noncompliance Determination.

## Inventory Main Window Options

The *Inventory* component allows you to add, change, and delete information about water systems. From the main menu, **Edit/Add Water System** allows you to add a new water system and invokes the Water System Maintenance window. **Edit/Maintain Water System** allows you to change an existing water system and invokes the Water System Selection search window, where you specify a water system number, name, or principal county served to be used as search criteria. An exact match takes you directly to the Water System Modification window (Exhibit 4-1). After you add all information about the water system and press **Exit**, SDWIS/STATE evaluates the need to generate a TCR sample schedule. When you create a new water system, the automatically generated routine TCR sampling schedule will have a begin date of 01/01/1991, even though your Water System Activity Date is more current than this. The software gives 01/01/1991 as the default begin date to all new routine TCR sampling schedules.



**Exhibit 4-1. Water System Modification**

The Water System Modification window is the launching point for all water system maintenance activity. To access a specific window to perform maintenance, select the appropriate button. A mark in the check box next to a button indicates that information for that area has been updated. You may choose another water system by selecting the **Select Water System** button.

The following buttons can be selected from the Water System Modification window:

**Basic Information** Click on this button to add, change, or delete any primary information about the current water system (Exhibit 4-2). There are two calculated fields: Population Served and Storage Capacity. To update these fields, make changes under the **Population Served** and **Water System Facilities** (Storage Facility) buttons, respectively, on the Water System Modification window. You can also enter the Last Sanitary Survey Date on this window. According to section 141.21(d) of the TCR rule, water systems that collect fewer than five routine samples per month must undergo an initial sanitary survey. States can use this date to identify and track systems that qualify for reduced sampling schedules, but automated TCR sample scheduling is not affected by this date.

Click Basic Information on the Water System Modification window.

**Water System Maintenance - Change**

Water System No.  Alternate State No.

System Name

Local Name

Activity  
Status:  Activity Reason:   
Date:  ☐ Historical?

Memo  Last Sanitary Survey Date with no defects (re: TCR)

Principal City Served  Principal County Served

Operating Category  Total Calculated Daily Pop  ☐ All GW Protected?

Avg Daily Production in GPD  Owner Type Code

Total Design Cap. in GPD  Total Emerg Cap. in GPD

Calculated Total Storage Cap. in Gals (from Facility data)

**Water System Source Water Percentages**

CHANGE Maintenance Action

Water System No. ND0900317 Name BRIARWOOD CITY OF  
Federal Type C State Type C Primary Source GU

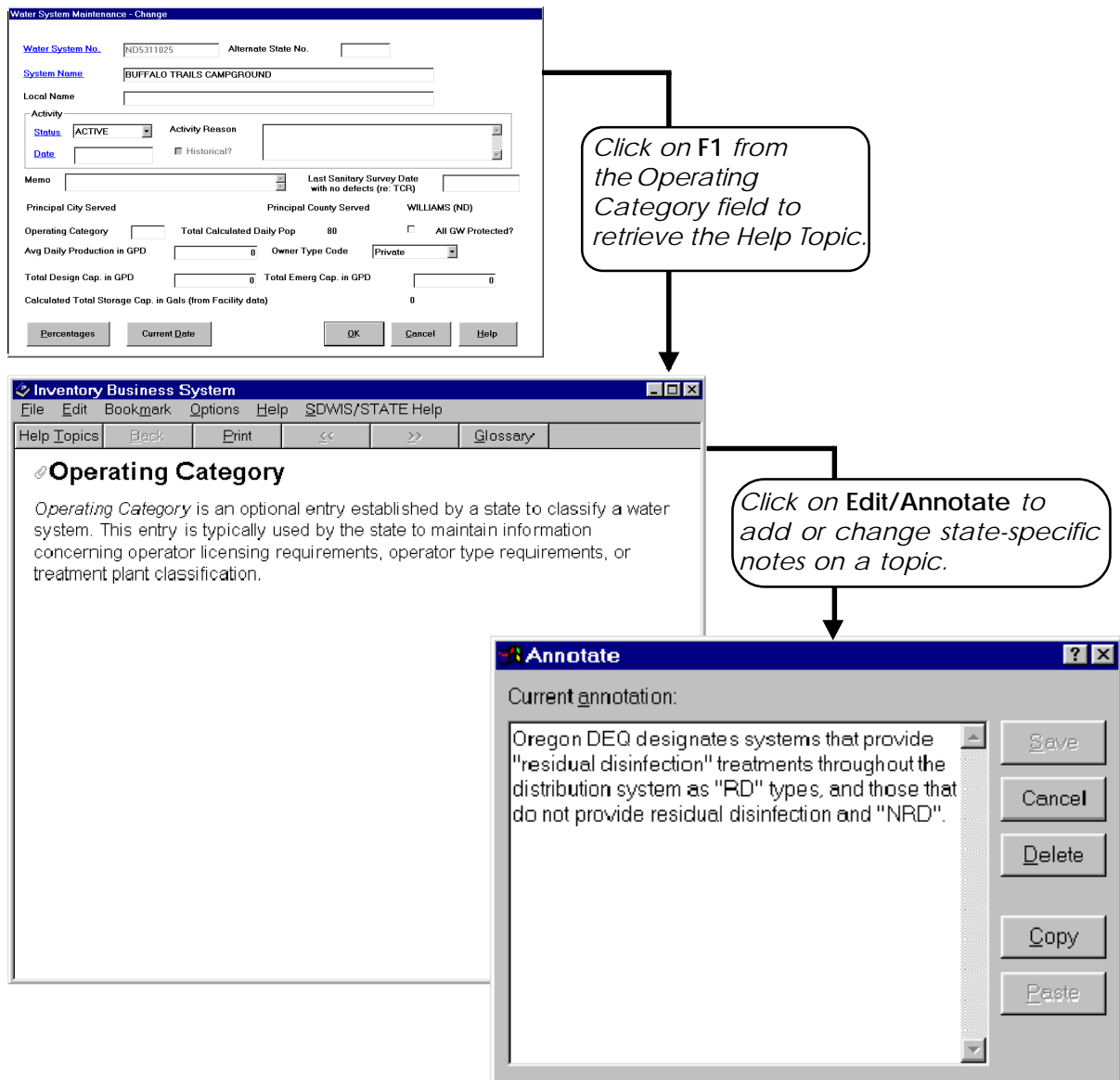
Source Water Percentages	Non-Purchased	Purchased
Ground Water Percent	<input type="text" value="80.00"/>	<input type="text" value="70.00"/>
Ground Water UDI Percent	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Surface Water Percent	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>
Total	100.00	

State Primary Source Type

**Exhibit 4-2. Water System Maintenance and Water System Source Water Percentages**

The system currently allows entry of only one date. There is no way to store and track more than one Last Sanitary Survey Date or historical information about sanitary surveys as individual records. This capability may be developed in future releases of the software.

Some states maintain information about levels of treatment or management by operators. You can use the Memo or Operating Category fields in the Water System Maintenance window to capture this information. Both of these fields are *open text*; that is, any values can be added within field length limitations. Also, online Help can be annotated to include specific comments about the maintained values in either of these fields (Exhibit 4-3).



**Exhibit 4-3. Water System Operating Category**

You can also use the memo field to keep a summary of details about surveys and other types of information. Annual operating periods have a starting month and day and an ending month and day (e.g., January 15–March 15). Annual operating periods are effective for a specified number of years. For example, the water system notifies the state on January 1, 1991 that the system was serving a non-transient population from January 1–March 31. The Effective Begin Date indicates the date the annual operating period becomes active, in this case, January 1, 1991. Leaving the Effective End Date field blank indicates that this annual operating period is repeated year after year, until an Effective End Date is entered.

**Population Served** If you click on this button, a Population Served Maintenance List appears in which you may add, change, or delete information about the population served by a water system. The Annual Operating Period (AOP) Maintenance window allows you to add or change an operating period and to add, change, or delete a related population (Exhibit 4-4).

The diagram illustrates the 'Annual Operating Period Maintenance' software interface. It shows two main windows: 'Annual Operating Period Maintenance - Change' and 'Population Served Maintenance - Add'.

**Annual Operating Period Maintenance - Change** window:

- Water System** section: No. N05311825, Name: BUFFALO TRAILS CAMPGROUND, Federal Type: NC, State Type: NC, Primary Source: GW.
- Maintenance List** section: A table with columns for Start MM/DD, End MM/DD, and Estimated Count. The first row shows Start MM/DD: 5, End MM/DD: 1, and Estimated Count: 80.
- Enter the month and day for the Operating Period** section: Start Month and Day (5, 1), End Month and Day (10, 31), Effective Begin Date (01/01/1991), and Effective End Date (blank).
- Population Served** section: A table with columns for Type Code and Estimated Count. The first row shows Type Code: 1 and Estimated Count: 80.
- Buttons**: Add Pop, Change Pop, Delete Pop, Deselect, OK, Cancel, Help.

**Population Served Maintenance - Add** window:

- Population Type**: A dropdown menu showing 'NON TRANSIENT'.
- Estimated Count**: A text input field showing '0'.
- Buttons**: OK, Cancel, Help.

**Callouts:**

- A callout box points to the 'Maintenance List' section: "You also may use this process to change or delete population served information."
- A callout box points to the 'Population Type' dropdown: "You may add as many types of populations as you want."
- A note at the bottom states: "Note: Annual operating periods can be 365 days or less including a single day event."

**Exhibit 4-4.** Annual Operating Period Maintenance



To add a population for the selected annual operating period, deselect the existing population record and select the **Add Pop** button. To change an existing population, select the population record and the **Change Pop** button on the Annual Operating Period Maintenance window. Adding or changing a population or annual operating period triggers a recalculation of the water system type code and recalculation of the TCR sample schedule(s). The Water System Type Maintenance window displays the recalculated water system type information (Exhibit 4-5). However, you can override the state type calculation. *When more than one annual operating period is entered for a PWS, always verify that SDWIS/ STATE determined proper TCR schedules for the PWS. Also verify the new TCR schedule when your inventory changes are such that the monitoring requirement changes from monthly to quarterly or quarterly to monthly.*

The Water System Type Code Selection window (Exhibit 4-6) allows states the flexibility to classify small systems appropriate to their local interpretations of the classification rules. The *de minimus* level for triggering this window and the ability to classify water systems manually are explained further in Appendix B.

**Water System Type Maintenance**

Water System  
 No. ND5311025      Name BUFFALO TRAILS CAMPGROUND  
 Activity Status A      Number of Active Sources of Water 1

Water System Parameters

Total Residential Population Count	50
Total Non Transient Population Count	0
Total Transient Pop Count	80
Total Wholesale Population count	0
Total Population Count	130
Total Service Connection Count	4

Federal Water System Type Code C  
 State Water System Type Code before Calculation NC  
 State Water System Type Code Based on Above Entries NTNC

*Changing certain water system characteristics (Exhibit 4-3) will trigger this window.*

*Represents calculated data for population served and water system type code.*

**Water System State Type Code**

Select State Water System Type Code

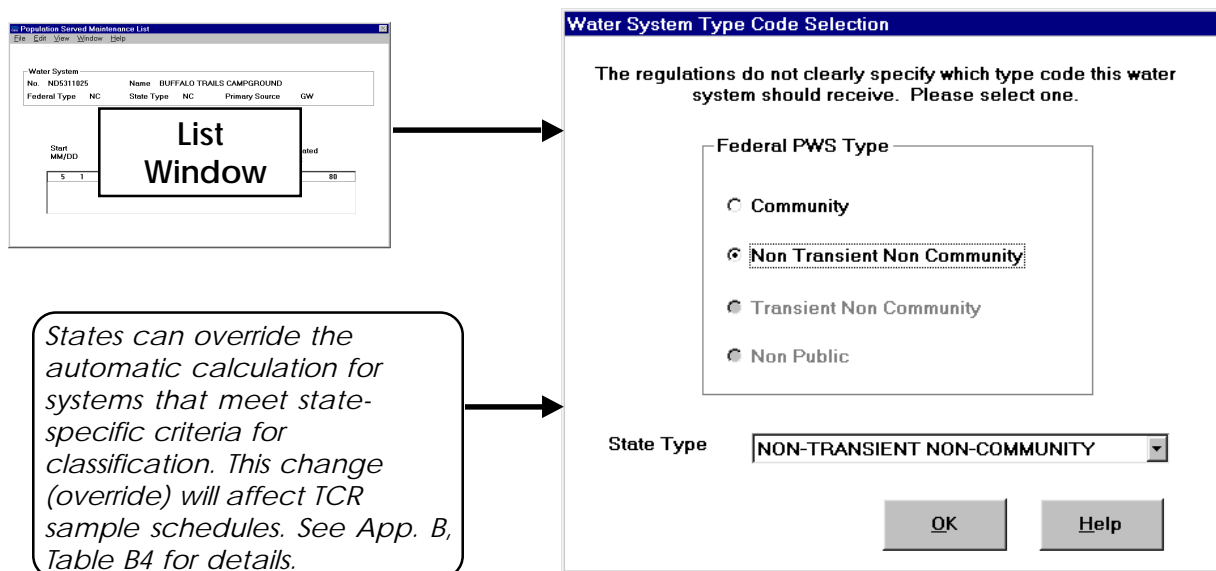
Rule Type Code **COMMUNITY**

*Allows you to change the state rule type code to your preference, but the current rules do not use the state water system type code for automated classification or TCR Scheduling.*

**Exhibit 4-5. Water System Type Maintenance**

When the population for a water system changes, you have two options for making the change in SDWIS/STATE: (1) either simply change the population served value without changing the AOP or (2) close out the existing AOP (and its related populations and create a new AOP with a new population served.

The advantage of the second approach is that you can keep track of population changes over time. *However, you must close out the existing AOP with an Effective End Date that precedes the Effective Begin Date of the new AOP.* For example, if the population in the old AOP is 5000 and the population in the new AOP is 5100, the software reads a population of 10100 in the new AOP if these dates are the same. Leaving the old AOP Effective End Date and the new annual operating period Effective Begin Date the same date results in the generation of an erroneous TCR sampling schedule.



**Exhibit 4-6.** De Minimus Water System Type Code Selection

## Service Area Characteristics

Click on this button to display the Service Area Characteristics Maintenance List. From this window, you may choose **Edit/Add** and select a service area from the list. Once back in the Service Area Characteristics Maintenance List, choose **Edit/Primary** to make a service area primary or **Edit/Delete** to delete a service area (Exhibit 4-7). If the water system has only one associated service area,

SDWIS/STATE defaults it to the primary service area in order to comply with federal reporting guidance. If you are updating service areas in your state's database, it is important to maintain consistency between service area types (i.e., residential) and population types (i.e., residential).

**Service Area Characteristics Maintenance List**

File Edit View Window Help

Water System  
No. ND0900317 Name BRIARWOOD CITY OF  
Federal Type C State Type C Primary Source GU

Service Area Name	Code	Name Code	Primary	Ext Sys No.
RESIDENTIAL AREA	R	RA	Y	263
INDUSTRIAL/AGRICULTURAL	NT	IA	N	1396
MEDICAL FACILITY	NT	MF	N	1397
HOTEL/MOTEL	T	HM	N	1395

Make a service area primary by selecting **Edit/Make Primary** in the Service Area Characteristics Maintenance List.

Select a new service area to add to the list.

**Service Area List**

Select a Service Area to assign to the Water System

Code	Service Area Name	Name Code
NT	DAY CARE CENTER	DC
O	DISPENSER	DI
R	HOMEO	HA
T	HOTEL/	HM
T	HIGHWA	HR
NT	INDUST	IA
O	INTERSTATE CARRIER	IC
NT	INSTITUTION	IN
NT	MEDICAL FACILITY	MF
O	MOBILE HOME PARK	MU

Select Cancel Help

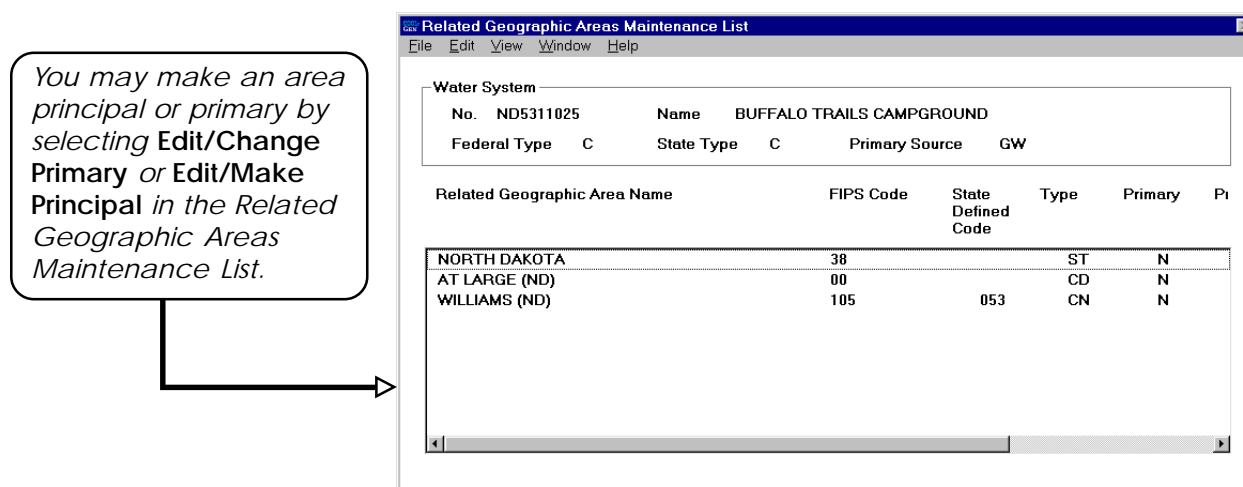
**Exhibit 4-7.** Service Area Characteristics Maintenance List

**Related Geographic Areas** Geographic area windows describe the political boundaries relative to a water system. Geographic areas are assigned to assist in the description of water systems and their facilities. Clicking this button displays the Related Geographic Areas Maintenance List (Exhibit 4-8).

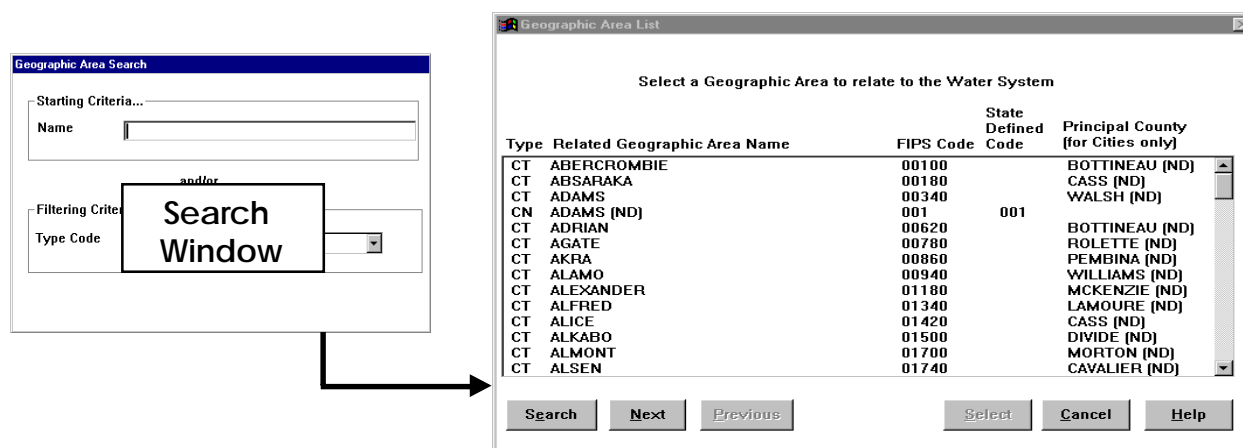
You can designate an area as *principal* or *primary* on this window. An area is considered primary for a water system if the water system provides 50 percent or more of its production to that area. More than one geographic area may be considered primary. For example, a water system may provide 50 percent of its production to two cities. If the water system has only one associated geographic area, SDWIS/STATE defaults it to the primary geographic

area in order to comply with federal reporting guidance. A water system's principal geographic area is selected from a list of primary areas; principal areas can only be cities or counties. Principal areas are the areas where the subject water system is designated as the principal supplier of water.

If you add a related geographic area, a Geographic Area Search window appears, where you may perform a search. Once the search is complete, a Geographic Area List appears, where you may perform another search, or click on the **Next** or **Previous** buttons to retrieve the next or previous 100 records from the database (Exhibit 4-9). Once back in the Related Geographic Areas Maintenance List, you may make a geographic area primary or delete the area's relationship to the water system.

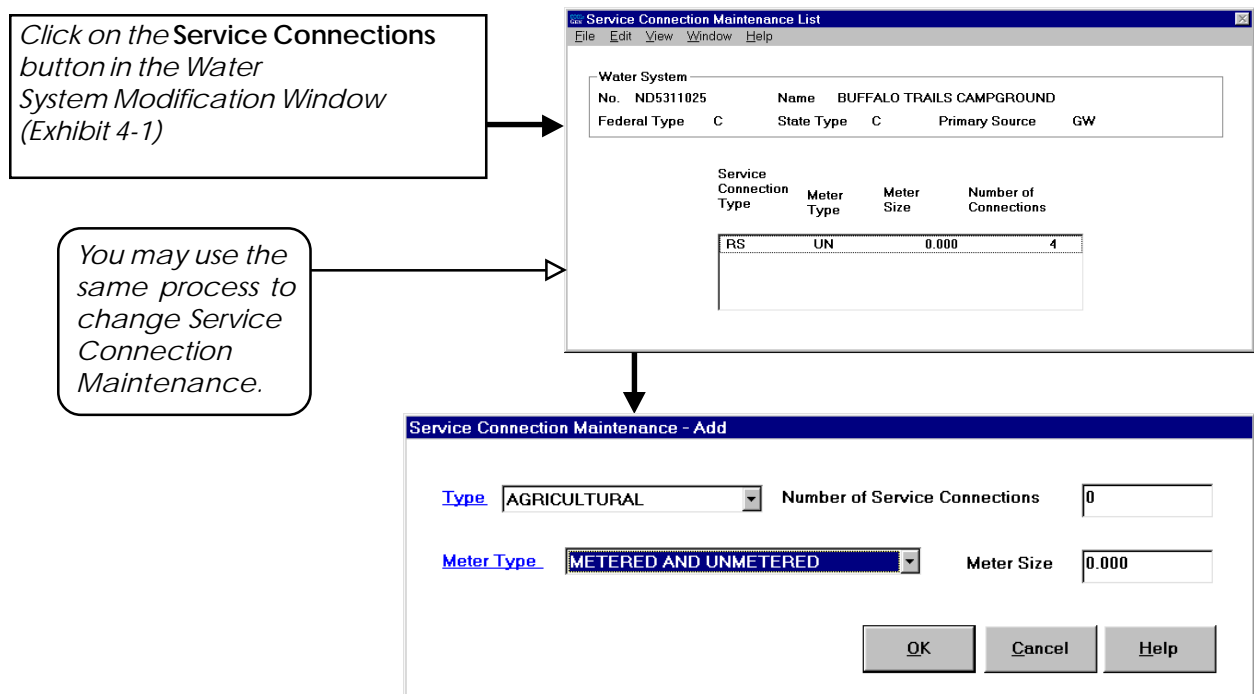


**Exhibit 4-8.** Related Geographic Areas Maintenance List



**Exhibit 4-9.** Geographic Area List

**Service Connections** Click on this button to display the Service Connection Maintenance List and add, change, or delete service connections. If you add or change information, a Service Connection Maintenance window appears, which allows you to maintain service connection information. A new record must be created for each meter type and size. Remember that changing service connection count information triggers recalculation of the water system type code (Exhibit 4-10) and may subsequently trigger recalculation of TCR sample schedules for systems whose classification changes from non-public to public (or vice versa).



**Exhibit 4-10.** Service Connection Maintenance—Add Maintenance Action

**Points of Contact** Click on this button to list the legal entity points of contact for a water system. A Points of Contact Maintenance List appears, where you may add, change, change the status, or delete certain points of contact associated with the current water system. If you add a point of contact, a Legal Entity Search window appears that allows you to find the appropriate legal entity. When the search is complete, a Point of Contact List appears, where you may select a legal entity, change the method by which the list is sorted, perform another search, or go to previous or

later lists. After you select a point of contact, a Legal Entity Point of Contact Maintenance window appears, where you may select one or more contact types (Exhibit 4-11).

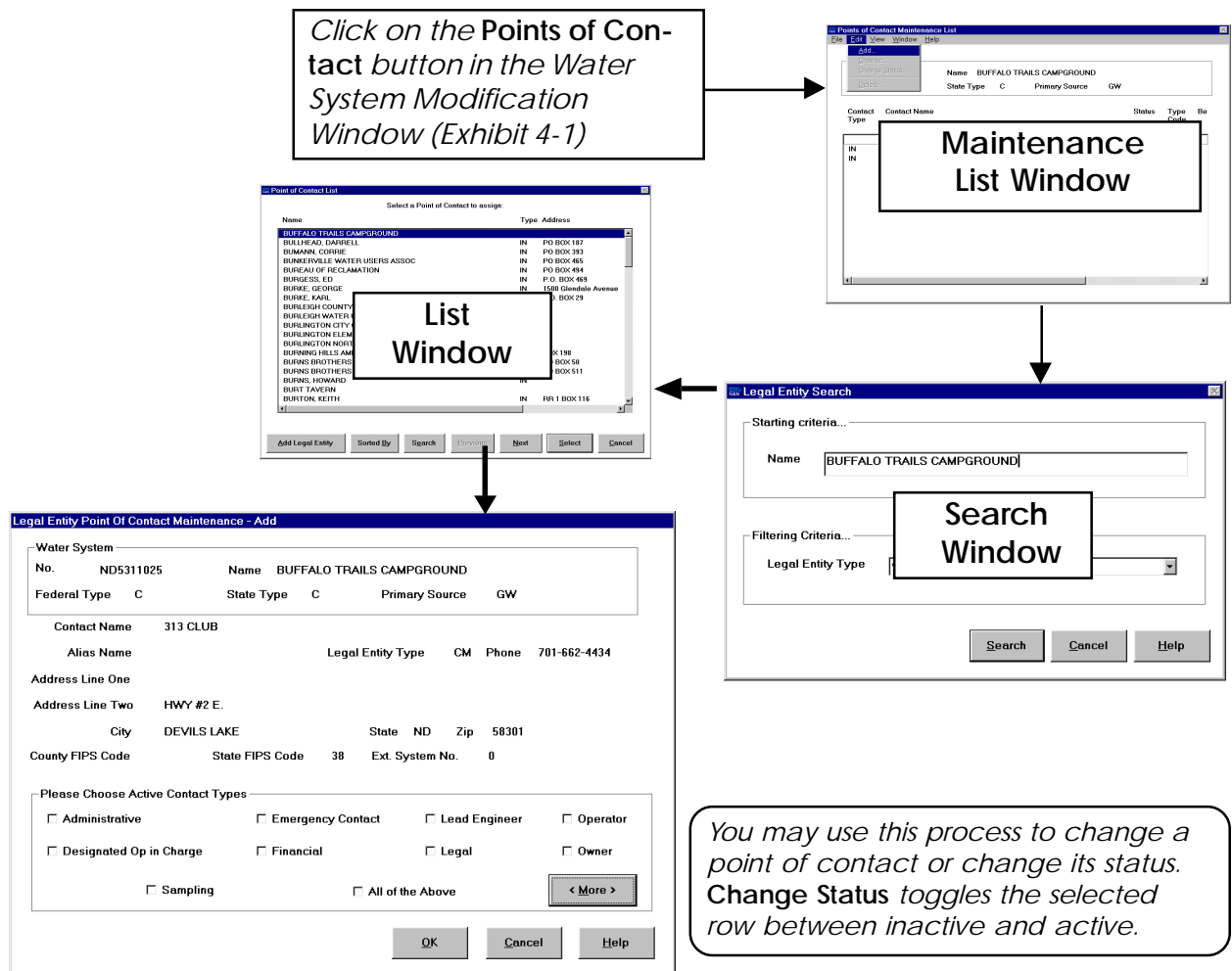
The Environmental Protection Agency (EPA) has changed its requirement for a PWS's official address. EPA's new requirement, as stated in the *Revised Inventory Reporting Requirements for the Safe Drinking Water Information System (SDWIS/FED)*, Technical Guidance, June 1998, follows:

*The official address of a public water system represents the name and address of the responsible person (e.g., an owner or operator) associated with the PWS. The official address consists of the name of the water system, two address lines which are used to identify the responsible person and the mailing street address, a city, state, and zip code. The major changes made to address information reporting are to add the mailing address of the water system (an owner, operator, responsible person, administrative contact) as a requirement, and to remove the physical address of the water system.*

The following address data represents the minimum needed to meet the "PWS Official Address" (which is a Core Data Set requirement): The full address of the owner/operator/responsible person reported as either C100-based DTF transactions or as C300-based transactions with a type code of "AC".

Beginning with SDWIS/STATE 6.0, the following minor modifications will be made to the *Migration to SDWIS/FED: Inventory* software to support these requirements:

- When creating transactions for Form A1 (C100-based transactions), *Migration to SDWIS/FED* will value C131 (System Name) from the Name attribute in the Water System table. (Prior to SDWIS/STATE 6.0, this value came from the Name attribute in the Legal Entity table.)
- When creating transactions for Form A1 (C100-based transactions), if an "AC" contact does not exist and an "OW" contact does exist, *Migration to SDWIS/FED* will value C133 (Address Line One) from the Legal Entity Name attribute and C135 (Address Line Two) from the Legal Entity Address Line One attribute. Prior to SDWIS/STATE 6.0, *Migration to SDWIS/FED* created the Form A1 transactions using the owner's address without any indication that the address did not necessarily represent the physical location of the PWS. With SDWIS/STATE 6.0, if an owner's

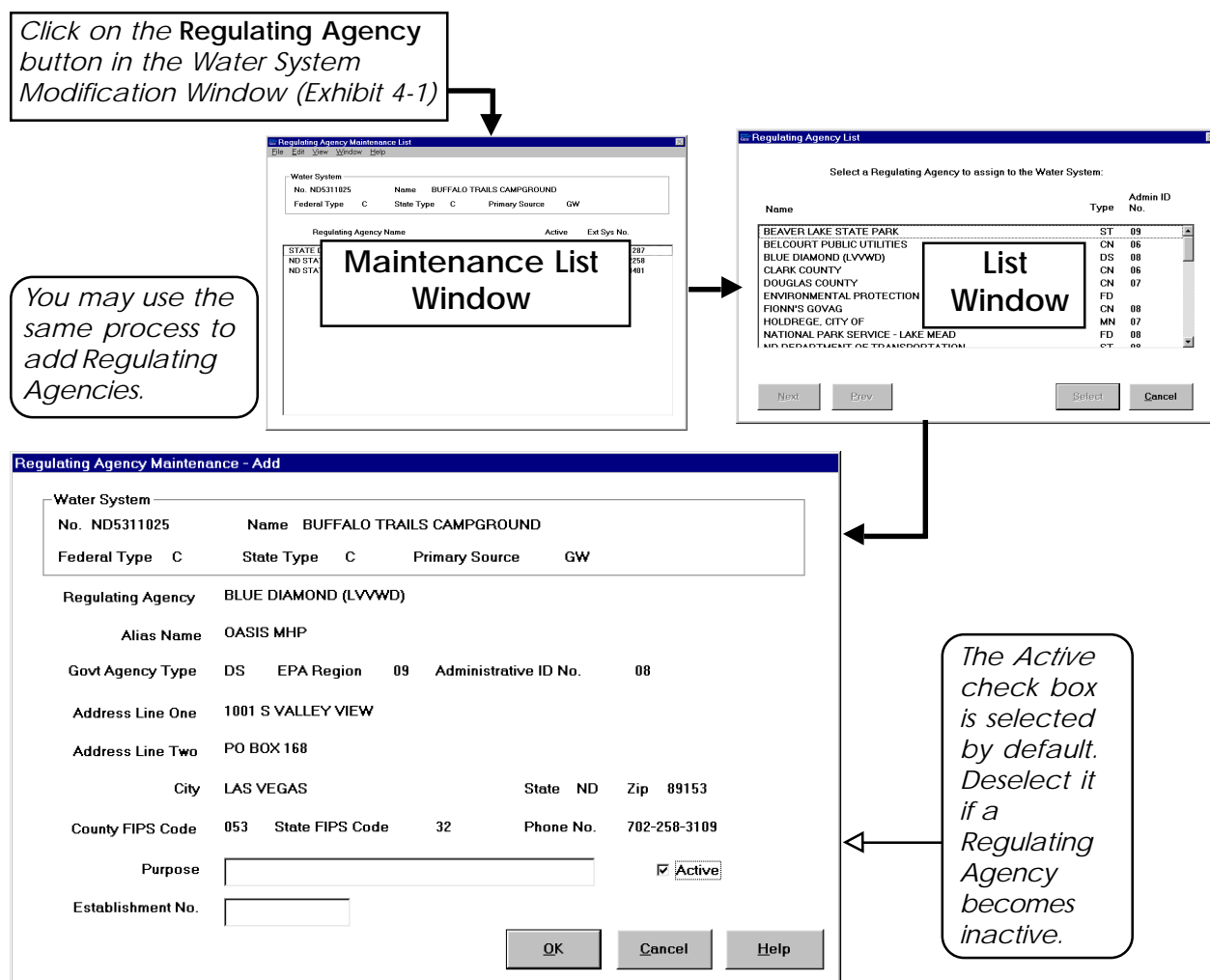
**Exhibit 4-11. Legal Entity Point of Contact Maintenance—Add Maintenance Action**

address is used for Form A1, the owner's name should appear in Address Line One and his/her address should appear in Address Line Two so that SDWIS/FED understands that Form A1 represents a responsible party.

**Regulating Agency** Click on this button to display the Regulating Agency Maintenance List, where you can add, change, or delete the connection between a regulating agency and the current water system. If you choose to add a connection, select the regulating agency from the list. The Regulating Agency Maintenance window (Exhibit 4-12) gives detailed information about the selected regulating agency, as well as the capability to record the purpose for the relationship between the agency and the water system or drinking water program. Select the Active check box if the status of the connection to the agency is active. The Establishment No. field contains the establishment number used by programs other than the drinking water program.

To run automated TCR Noncompliance Determination, the Regulating Agency assigned to a water system must be assigned rule authority for the Total Coliform Rule. Consult your SDWIS/STATE Administrator to verify that this authority has been established. If so, the application automatically associates the appropriate monitoring periods to the rule. *Failure to associate a water system with a Regulating Agency that is associated with TCR will exclude the water system from any noncompliance determination. This exclusion may prevent legitimate violations from being generated.*

For rules other than TCR, the water system's regulating agency must be associated with those rules, and the water system must be associated manually with the appropriate monitoring periods. In turn, each monitoring period must be associated with each rule. For more details, see the section titled "Planning" in Chapter 6.



**Exhibit 4-12. Regulating Agency Maintenance—Maintenance Action Process**



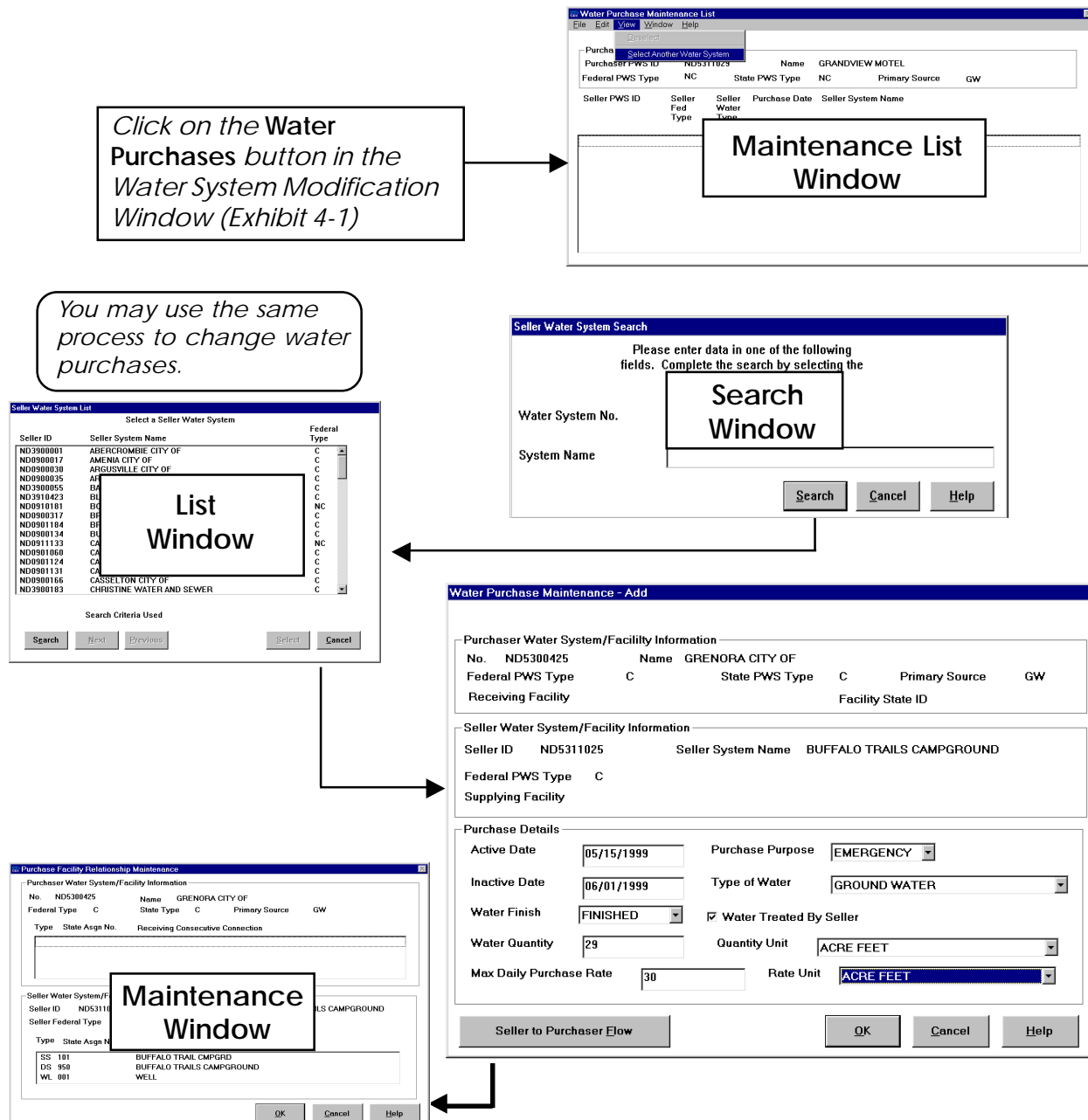
**Water Purchases** Click on this button to display the Water Purchase Maintenance List where you may add, change, or delete water purchases. If you select **Edit/Add**, you may then perform a search in the Seller Water System Search window. If the purchasing water system (i.e., the current water system) has no available Consecutive Connection (CC) facilities (i.e., CCs that have not been used in a previous water purchase record), then a warning message is displayed. You can continue to add the water purchase; however, you should remember to modify the Water System Facility List to contain at least one CC-type facility. If no message is displayed, the search proceeds directly to the Water Purchase Maintenance window. The Water Purchase Maintenance window allows the entry of purchase details including Active Date, Inactive Date, Water Finish and Type of Water, Water Treated by Seller indication, Water Quantity and Units, Daily Purchase Rate and Units, and Purchase Purpose (Exhibit 4-13).

*Migration to SDWIS/FED* creates transactions for water purchases that require that each water purchase record in SDWIS/STATE include details about the flow from the seller to the buyer. Without this information, *Migration to SDWIS/FED* cannot determine the PWS ID of the seller. Without the seller ID, *Migration to SDWIS/FED* will not create a B1 transaction for the buyer. *This is particularly critical if the buyer's CC is its only source of water. A buyer water system will not be registered with SDWIS/FED without a buyer CC.* Before you use *Migration to SDWIS/FED* to do a total replace of inventory data, review and edit each water purchase record to ensure that it includes this important information.

#### **What is a Consecutive Connection (CC)?**

A Consecutive Connection (CC), as used in SDWIS/STATE, is a water system facility that establishes a physical connection on the buyer's (consumer's) side of a connection with a seller (provider). CCs should *not* be added to the seller's facilities. The reason is that SDWIS/FED has historically defined CCs as facilities for a buyer and expects a PWS ID for a seller whenever a CC record is reported. In SDWIS/STATE, CCs can be specifically and clearly defined by entering all appropriately related water system facilities in both provider and consumer water systems.

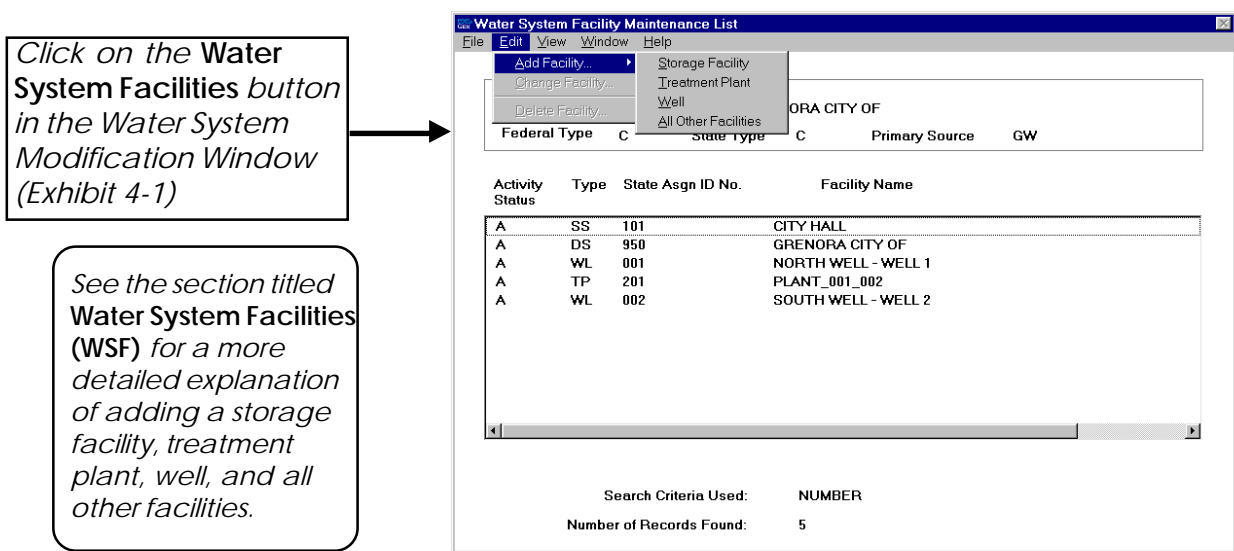
Further, SDWIS/STATE supports the concept of facility flows. CCs can be further defined relative to flow from one facility to another. For example, a specific water system facility on the seller's side, such as a treatment plant, can be connected to the CC on the buyer side. Next, in the buyer water system, the CC can be connected to the distribution system. This indicates the flow from the seller's treatment facility through the buyer's CC to the buyer's distribution facility.



**Exhibit 4-13. Water Purchase Maintenance**

**Water System Facilities**

Click on this button to display the Water System Facilities Maintenance List and add, change, or delete a facility (Exhibit 4-14). If you add a facility, a submenu appears where you may choose to add a storage facility, a treatment plant, a well, or any other type of facility, such as pressure control, pump facility, reservoir, roof catchment, sampling station, spring, surface impoundment, transmission main, treatment plant, or well head. When you choose **Edit/Add Facility/All Other Facilities**, the Water System Facility Maintenance window appears, where you may enter the information. The Water System Facility Maintenance window allows you to add or update basic facility information.



**Exhibit 4-14. Water System Facility Maintenance List**

**Sampling Point**

Click on this button to list all sampling points that were entered into SDWIS/STATE for the water system or to add new sampling points for the water system. Note that you can also add sampling points after you select a water system facility. If you need to add several sampling points for a single water system facility (e.g., TCR sampling points in the distribution system), it is more efficient to first select the water system facility and then click on the **Sampling Points** button.

Sampling points are very important when evaluating whether a Public Water System is complying with required monitoring. This area is where you store TCR sample sites, entry-point-to-the-distribution-system sample sites (for Phase I, II, V rule compliance), and other sites that a PWS owner must sample to comply with federal or state drinking water regulations. Every sample entered into SDWIS/STATE for compliance purposes must be linked to a Sampling Point.

If you choose to add a new sampling point, select a water system facility from the list. The new sampling point is associated with this facility. Enter the new sampling point information in the Sampling Point Maintenance window (Exhibit 4-15).

SDWIS/STATE does not allow you to delete a sampling point that is referenced by a sample or sampling point schedule. However, SDWIS/STATE does allow you to change information about a sampling point, even if it is linked to one or more samples or schedules (and it allows this without warning). Before making a significant change to an existing sampling point (such as changing the Sampling Point Number or the Sample Location), check with your SDWIS/STATE Administrator.

Click on the **Sampling Point** button in the **Water System Modification Window (Exhibit 4-1)**

The diagram illustrates the process of adding a new sampling point. It starts with a callout pointing to the 'Sampling Point' button in the 'Water System Modification Window (Exhibit 4-1)'. This leads to the 'Sampling Point Maintenance List' window, which contains a table of existing sampling points. A 'Maintenance List' box highlights this table. An arrow points from the 'Maintenance List' to the 'Facility Selection List' window, which shows a 'Selection List' box. Another arrow points from the 'Facility Selection List' to the 'Sampling Point Maintenance - Add' window.

**Sampling Point Maintenance List**

Water System No.	Name	Facility Type	Date Type	Primary Source	Location
ND538045	GRENOIRA CITY OF	C	C	GW	

**Facility Selection List**

WSF Number	WSF Type	WSF Name
101	SS	CITY HALL
008	DS	GRENOIRA CITY OF
001	WL	NORTH WELL - WELL 1
001	TP	PLANT 300 - 002
002	WL	SOUTH WELL - WELL 2

**Sampling Point Maintenance - Add**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND

Water System Facility  
No. 101 Type SS Name BUFFALO TRAIL CMPGRD

Sampling Point No. 2345 Location BUFFALO PASSING

Sampling Point Type Entry Point Source Water Type Raw

☒ Represents Distrib System Process Phase After ☒ Post Disinfection

Lead and Copper  
Tier Level Single Family > 1982 Tier Type Cu<83

OK Cancel Help

**Exhibit 4-15. Sampling Point Maintenance**

**Classification Data** SDWIS/STATE supports extensive definitions of public water systems. Click on this button to view read-only criteria that the application evaluates to determine proper water system classification. The Water System Classification Data window displays the status of each of the affecting criteria: population count and type, service connection, active sources of water, and regulating agency (Exhibit 4-16). All of these criteria have a requirement that must be met for a water system to be classified as public (Exhibit 4-17). Review these areas to increase your familiarity with the codes and the classification determination.

The issue of water system classification (i.e., community, non-community, etc.) and classification of *de minimus* (very small) water systems has been discussed extensively over the years. Classification attempts to provide clarification in an area where there is considerable uncertainty.

**Water System Classification Data**

Water System  
No. ND5300425      Name GRENORA CITY OF

The following data is required in order for a Water System to qualify as a Public Water System. If the Water System is inactive or missing one of the group items listed below, then the Water System will be classified as Non-Public (NP).

Activity Status      A      Date

Populations Served				Service Connections	
Start Month	Start Day	End Month	End Day	Population Type	Population Served
1	1	12	31	R	261

Type	Count
RS	170

Active Sources of Water		
Name	Type Code	Status
NORTH WELL - WELL 1	WL	A
SOUTH WELL - WELL 2	WL	A

Regulating Agency Assignments	
Type	Name
GA	STATE DEPARTMENT OF HEAL
GA	ND STATE ADMINISTRATIVE D
GA	ND STATE ADMINISTRATIVE D

OK

**Note:** You cannot change information in this window; you must change the data elsewhere in the application to modify the classification criteria.

**Exhibit 4-16.** Water System Classification Data

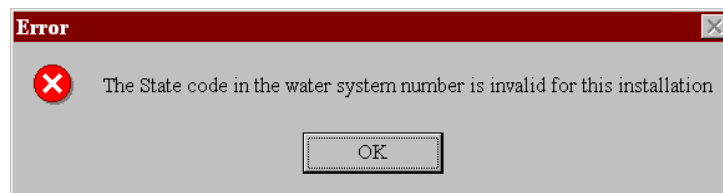
Type Code	Water System Facility Type	Valid Water Type Code
CC*	Consecutive Connection	any; not blank
CH	Common Headers	any
CS	Cistern	any
CW	Clearwell	any
DS	Distribution System/Zone	any
IG*	Infiltration Gallery	SW, GWUDI, GW
IN*	Intake	SW
NP*	Non-Piped	any; not blank
OT	Other	any
PC	Pressure Control	any
PF	Pumped Facility	any
RC*	Roof Catchment	GW
RS*	Reservoir	any; not blank
SI	Surface Impoundment	any; not blank
SP*	Spring	any
SS	Sampling Station	any
ST	Storage Facility	any
TM	Transmission Main	any
TP	Treatment Plant	any
WH	Well Head	any
WL*	Well	GW, GWUDI

\* Use this type for definition of a public water system (active source of water).  
Key: GW = groundwater; GWUDI = GW under the direct influence of surface water; SW = surface water

**Exhibit 4-17.** Facility Types and Sources of Water for Public Water Systems

## Adding Water Systems Located in Other States

Many water systems share facilities across state boundaries. You can enter information about water systems located in adjoining states. These adjoining states (or any state, for that matter) must be referenced in the TINPRT table. Ask your SDWIS/STATE Administrator to add rows for more states to the TINPRT table if you attempt to add a water system belonging to another state and receive the error message shown in Exhibit 4-18.



**Exhibit 4-18.** Error Message

## Water System Facilities (WSF)

A WSF serves one or more specific functions in a water system. A WSF can be any location or facility related to the water system, such as distribution systems, treatment plants, pumping facilities, and water storage facilities. There are many different types of WSFs. For example, a facility can be an intake, pump, reservoir, or sampling station. All facilities share a set of common attributes. Some facilities have additional, unique attributes such as storage facilities, treatment plants, or wells. Because of these unique attributes, the WSF type cannot be changed once a WSF is added (if the type of WSF is in error, the WSF needs to be deleted and reentered correctly). The Water System Facility Modification window displays common function buttons similar to those found in the Water System Modification window (Exhibit 4-19). Specific examples of water system facilities are discussed later in this chapter.

## Common Facility Functions

The common functions listed below appear as buttons on the Water System Facility Modification window.

### Basic Information

Click on this button to modify basic information about the facility, such as the facility name. The facility's State Asgn No. field is mandatory and must be unique within the water system. Water Type is now required for all eight WSF types that are considered sources of water. The No Treatment check box on the Water System Facility Maintenance window allows you to explicitly capture the fact that the water from a particular source is not treated. Use this attribute to indicate when the water from this source is not treated. When you check the box, you are setting the value in this field to "N," which means you have explicit knowledge that water from this source is not treated. You may also leave this field blank, which indicates that either the source is treated or you do not know whether water from this source is treated. This attribute should be valued only for source type facilities reported to EPA via *Migration to SDWIS/FED*. The following WSF types are considered to be sources of water:

- CC (Consecutive Connection)
- IG (Infiltration Gallery)
- IN (Intake)
- NP (Non-Piped)
- RC (Roof Catchment)
- RS (Reservoir)
- SP (Spring)
- WL (Well)

*Select Edit/Add Facility/All other Facilities (Exhibit 4-14).*

**Water System Facility Maintenance - Add**

Water System  
No. ND1211226 Name AMBROSE COMMUNITY WELL  
Federal Type NC State Type NTNC Primary Source GW

Facility Name GRENORA CITY OF Ext. Sys. No.  
Local Name

State Assign No. FINDS No. Constructed

Type RESERVOIR Non Piped Facility Type

☐ Emerg. Power App Des Cap 0 Unit Pump

Water Type Availability

☐ No Treatment Seller Treatment Unknown

Activity  
Status ACTIVE Reason  
Date

River Reach Info Current Date OK Cancel Help

**River Reach Information**

USGS Hydrologic Unit Code 10060007

STORET Extension Hydro Unit Code

Water Body Name

☐ On River Reach River Reach Miles 0.0

OK Cancel Help

**Water System Facility Modification**

Water System  
No. ND5300425 Name GRENORA CITY OF  
Federal Type C State Type C Primary Source GW

Facility  
State Assign ID No. 950 Name GRENORA CITY OF  
Type DS

Select Type of Information to Modify

☐ Basic Information ☐ Facility Contacts

☐ Annual Operating Periods ☐ Locational Information

☐ Facility Flows ☐ Sampling Point

Select Facility Exit Help

**Maintenance Window**

**Water System Facility Maintenance - Change**

Water System  
No. ND5311825 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW

Facility Name BUFFALO TRAIL CAMPRD Ext. Sys. No. 2675  
Local Name

State Assign No. 181 FINDS No. Constructed

Type SAMPLING STATION Non Piped Facility Type

☐ Emerg. Power App Des Cap 0 Unit Pump

Water Type Availability

☐ No Treatment Seller Treatment Unknown

Activity  
Status ACTIVE Reason  
Date 01/01/1981

River Reach Info Current Date OK Cancel Help

**Exhibit 4-19. Water System Facility Maintenance**



This attribute is optional for water system facilities that are considered sources and may be marked as untreated or left blank. The No Treatment check box is used by *Migration to SDWIS/FED* to populate the C0433 DTF data element of the B1 form. This DTF transaction C0433 is created when the No Treatment check box is valued with “N”. When the No Treatment check box is blank, no C0433 DTF transaction is created.

Use the Seller Treatment field to indicate that the seller water system’s source was treated. This field should be valued only for water system facilities of type “CC” (Consecutive Connection) or “NP” (Non-Piped). This information is reported to EPA via *Migration to SDWIS/FED*. Permitted values for this field are the following: Unknown (not explicitly known if seller treated water); No treatment by seller (purchased water not treated by the seller before purchase (explicitly known)); treated by seller (purchased water treated by seller before purchase (explicitly known)).

The SDWIS/STATE *Migration to SDWIS/FED* component uses this attribute to create B1 transaction C0435 for each “CC” and “NP” type facility when Seller Treatment has a value of “Treated by Seller (Y)” or “No Treatment by Seller (N).” If Seller Treatment is blank for “CC” or “NP” type facilities, no C0435 transaction is created.

### Annual Operating Periods

Click on this button to list the facility’s AOPs that you may add, change, or delete. If you add an AOP, the WSF Annual Operating Period Maintenance window appears (Exhibit 4-20). It is set up much like the Annual Operating Period Maintenance window found under the **Population Served** button in the Water System Modification List (Exhibit 4-4).

### Facility Flows

Click on this button to display a list of the water flows between facilities that you can add, change, or delete. To add a flow, select the supplying facility, the receiving facility, and any other information about the flow connection that you wish to maintain (Exhibit 4-21). Note: It is particularly important to have correct flows for all CCs.

### Facility Contacts

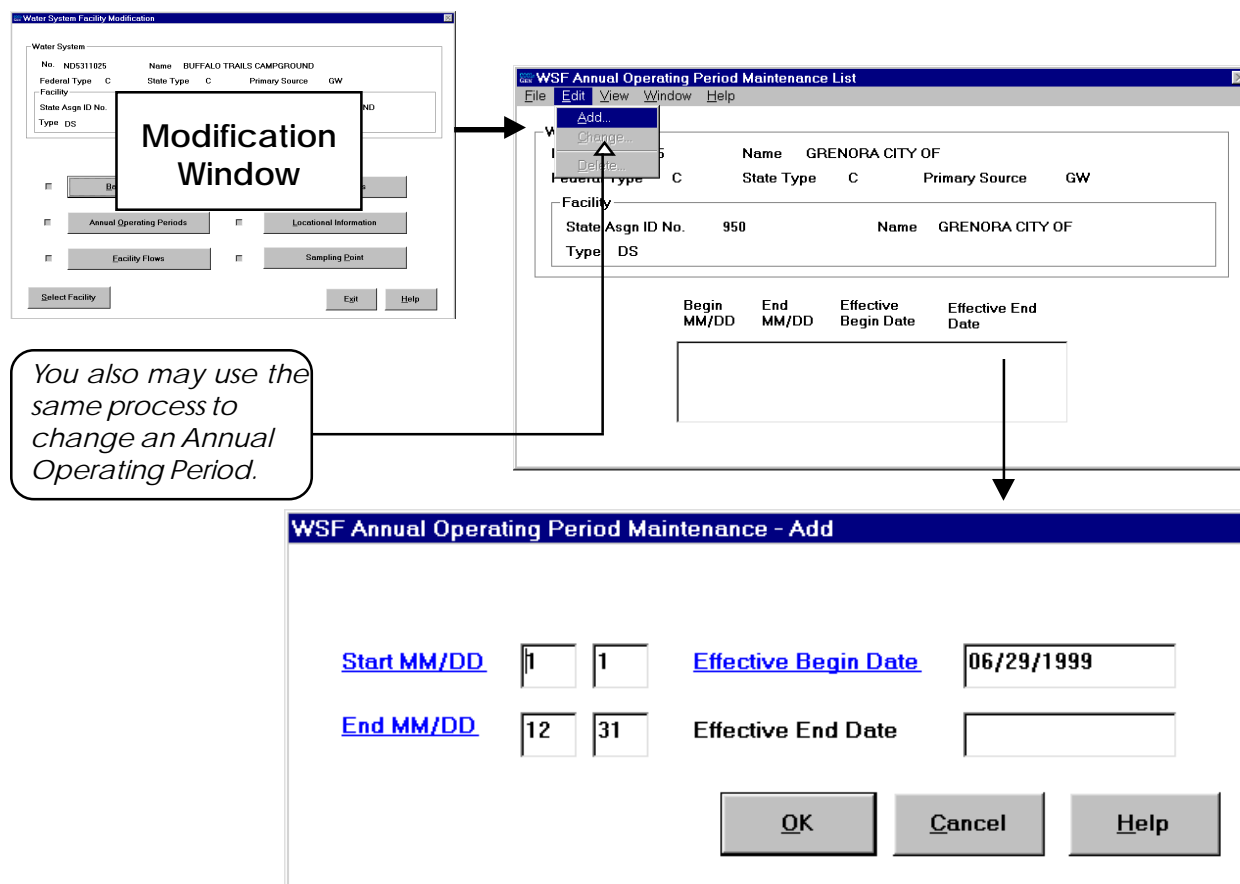
Facility contacts are set up much like the points of contact in the Water System Modification window. To assign a point of contact to the WSF, select one from the Point of Contact List. The Facility Legal Entity Contact Maintenance window allows you to review detailed information about the point of contact, designate the contact type, and specify if the contact type is active (Exhibit 4-22). Points of contact are typically

individuals with specific responsibilities over the ownership, operation, or maintenance of a water system or WSF. The contact types are emergency, location, designated operator in charge, and lead engineer.

## Locational Information

The WSF Locational Data Maintenance window allows you to maintain latitude, longitude, and cadastral (i.e., range, township, or section) data for a WSF (Exhibit 4-23). This window was completely redesigned with SDWIS/STATE 6.0 to enable you to capture locational information about WSF that complies with federal reporting guidance.

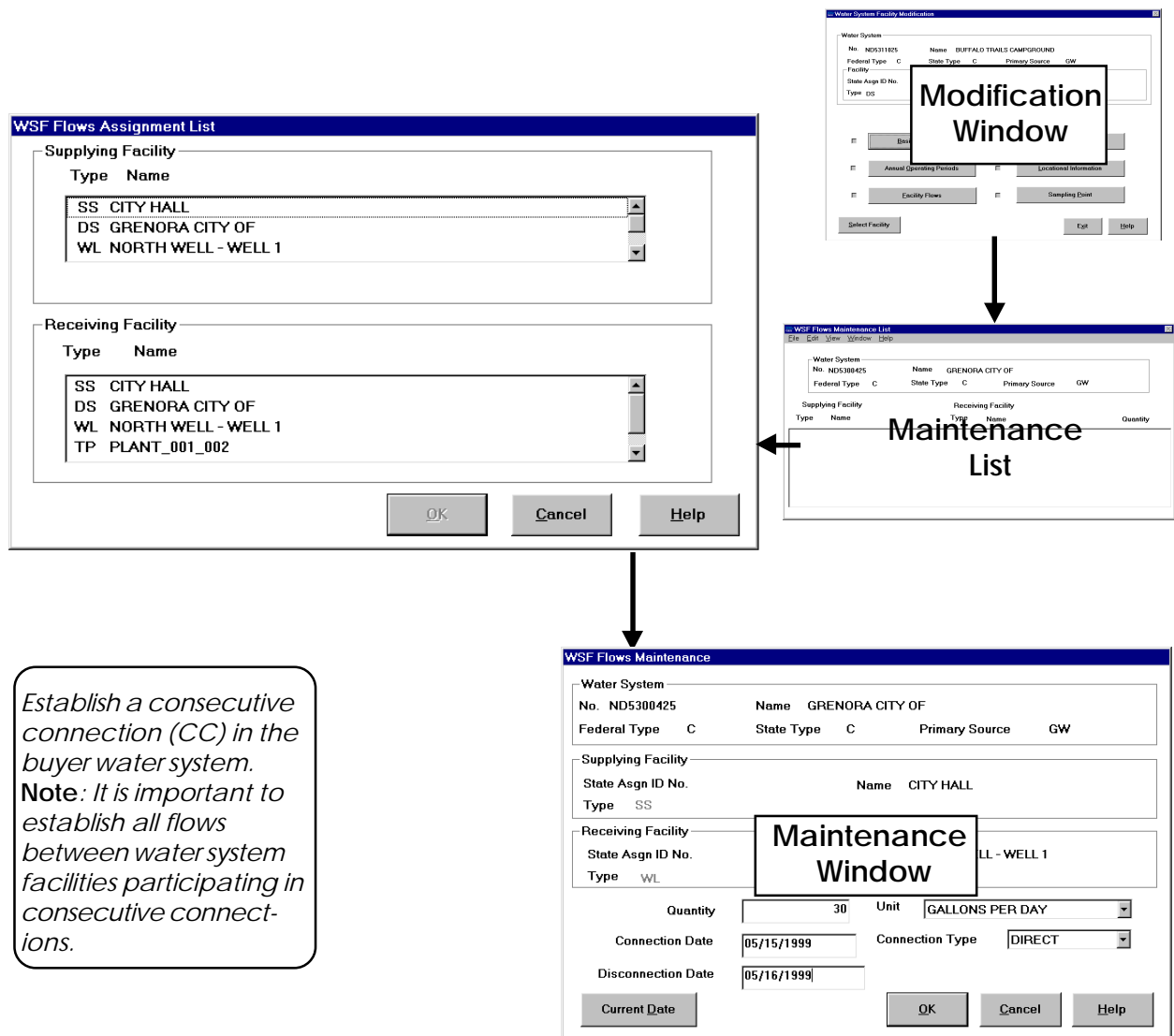
The WSF Locational Data Maintenance window enables you to enter latitude, longitude, and vertical (altitude) data for the selected water system facility. This group of data is known as locational data and not only includes these three but also a number of other data called “method, accuracy, and description codes” (MAD) data. The ability to enter these data serves two primacy agency needs: the need to be able



**Exhibit 4-20.** WSF Annual Operating Period Maintenance List

to store locational data as it is obtained and the need to meet the locational reporting requirements (with an accuracy goal of 25 meters) established by EPA.

Global Positioning Systems (GPS) is the recommended technology for achieving this degree of accuracy. However, where less accurate data collection methods, such as address matching, zip code, centroid, map interpolation, and photo interpolation are used, the latitude/longitude



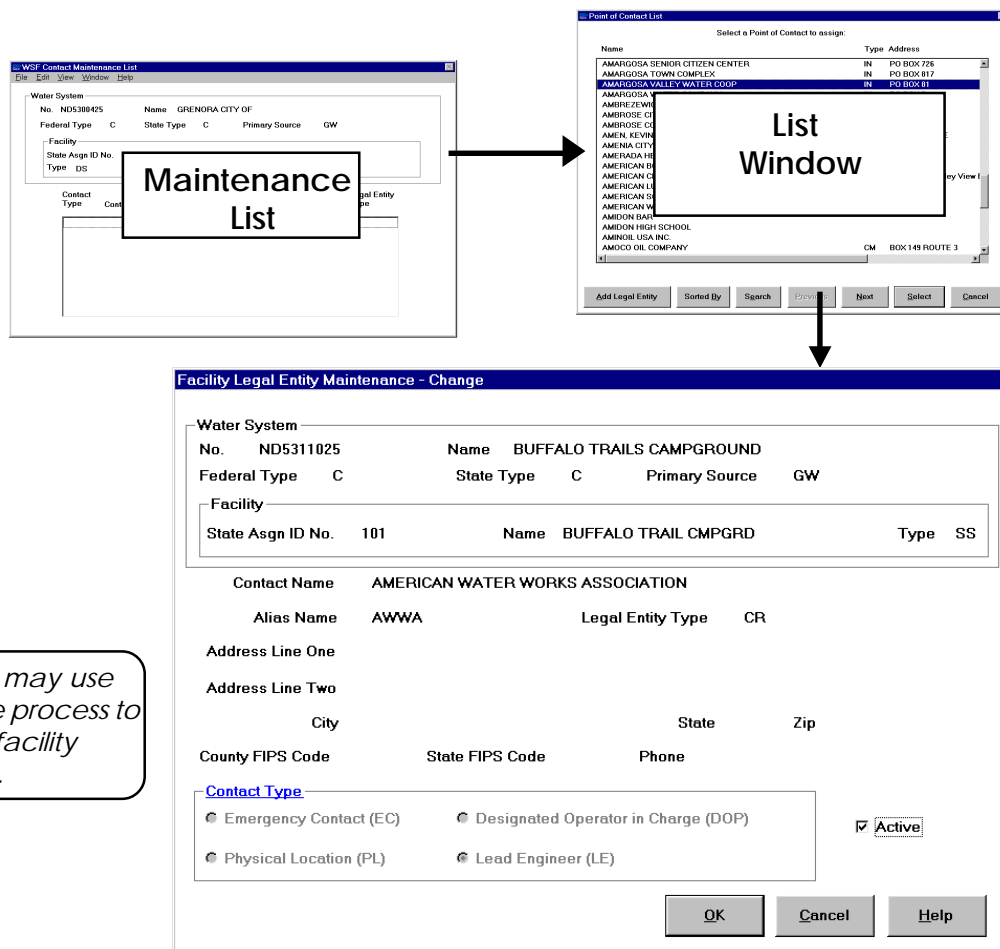
**Exhibit 4-21. WSF Flows Assignment List**

data can still be of use for certain purposes and should, therefore, be reported to SDWIS/FED. When more accurate latitude/longitude data are collected, the older data should be replaced with the more accurate data.

*Note that this window imposes minimal edit checks. The responsibility for entering valid data rests primarily with the user.*

Locational data entered into SDWIS/STATE are reported to SDWIS/FED if they meet the following edit checks run by the SDWIS/FED software.

For latitude/longitude attributes in degrees, minutes, and seconds (DMS); in decimal degrees; or in both:



**Exhibit 4-22. Facility Legal Entity Contact Maintenance**

- Latitude and longitude in DMS are mutually required (i.e., if one is present, then the other is required).
- Latitude and longitude in decimal degrees are mutually required (i.e., if one is present, then the other is required).
- Latitude and longitude in either DMS or decimals are required if all other fields in the Latitude/Longitude box are filled and data are present in all the fields in the Vertical Data box.

For *Collection Method*, *Accuracy*, *Description Category*, *Horizontal Datum*, *Source Scale*, and *Point Line Area*:

- If one is present, then all are required except *Point Line Area*, which has a default set by SDWIS/FED.
- If all are present, then latitude and longitude in either DMS or decimals are required.

**Water System Facility Modification**

Water System  
No. ND5311825 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW  
Facility  
State Asgn ID No. 950 Name BUFFALO TRAILS CAMPGROUND  
Type DS

**Modification Window**

**WSF Locational Data Maintenance - Change**

Water System  
No. ND5300425 Name GRENORA CITY OF  
Federal Type C State Type C Primary Source GW  
Facility  
State Asgn ID No. 950 Name GRENORA CITY OF Type DS

**Latitude/Longitude**

Latitude DMS 48° 37' 5.0000" OR Latitude (Dec.) 48.618056  
Longitude DMS 103° 56' 15.0000" OR Longitude (Dec.) 103.937500

Collection Date Accuracy +/- 0.00 meter(s)  
Collection Method >>>  
Source >>> Source Scale >>>  
Description Category >>>  
Horizontal Datum >>> Point Line Area >>>  
Verification >>>

**Vertical Data**

Vertical Measure 0.00 meter(s) Vertical Accuracy +/- 0.00 meter(s)  
Collection Method >>>  
Vertical Datum >>>

**Cadastral Legal Description**

Meridian Name GRENORA  
Range Township Section Qtr Qtr Qtr Qtr Qtr Qtr Qtr Qtr  
66 66 20 NE NW SE NW

**Format is NW, NE, SW, SE.**

**Format is alphanumeric NNN= number of Sect Twp or Rg, followed by compass locations "E, N, S, or W."**

**Exhibit 4-23. WSF Locational Data Maintenance**

For *Collection Date*, *Source*, and *Verification* latitude/longitude MAD attributes, if one or more is present, then latitude and longitude in either DMS or decimals are required.

For *Vertical Measure*, *Collection Method*, *Vertical Accuracy*, and *Vertical Datum*, if *Collection Method*, *Vertical Accuracy*, or *Vertical Datum* is present, then *Vertical Measure* is required.

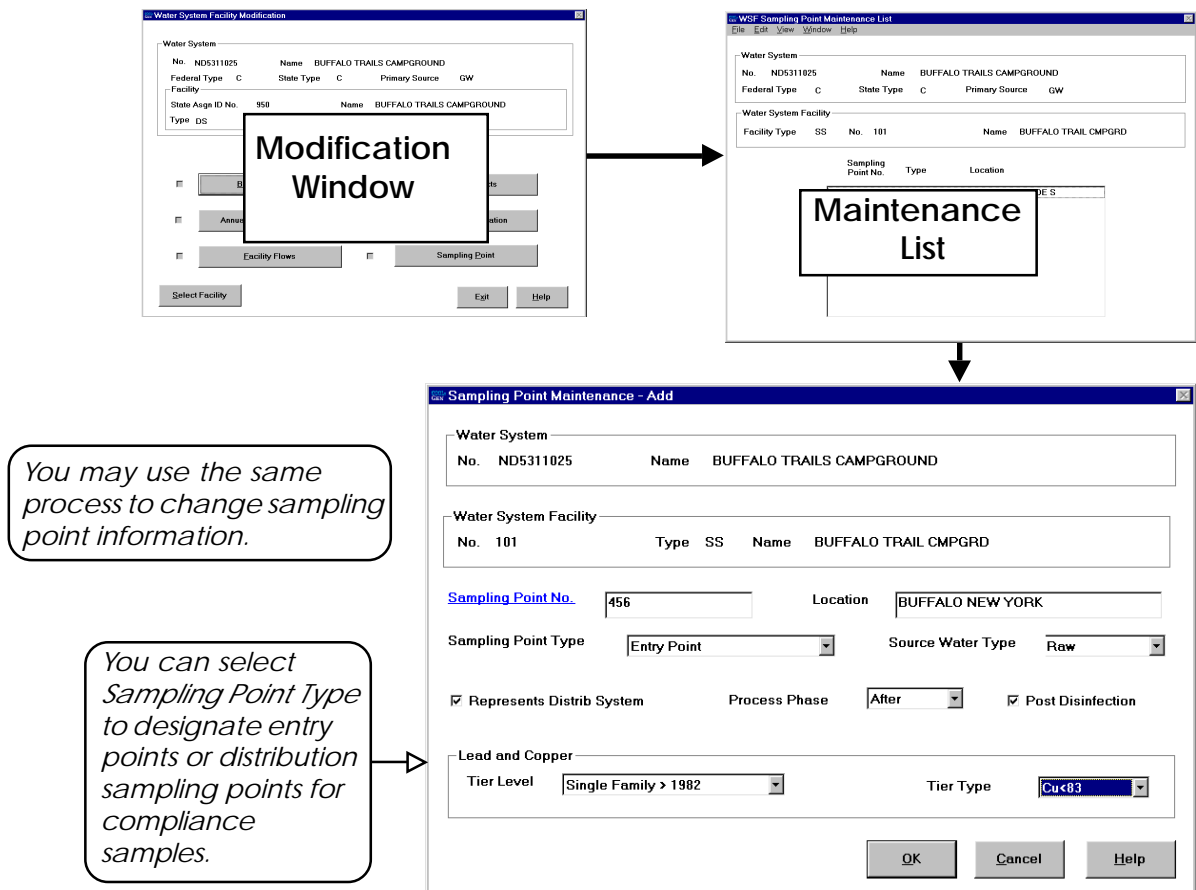
For all these fields, except for *Collection Date*, *Accuracy*, *Vertical Measure*, and *Vertical Accuracy*, click on the **Go To** buttons to access the *Code Permitted Value Selection List* from which you may select.

Cadastral surveys were conducted in remote areas of the country prior to the development of modern survey technologies and prior to settlement in the Western United States. Although the data are outdated and have been replaced by latitude and longitude information, cadastral survey information is still used by some states for placing water system facilities.

## **Sampling Point**

Click on this button to list sampling points that belong to the current WSF. You can add, change, or delete sampling points. If you choose **Edit/Add**, the Sampling Point Maintenance window appears, where you may record information about the sample point in the fields provided, such as *Location* and *Type* (Exhibit 4-24). You may attach sampling points to the specific water system facilities and designate their sampling point type. Be aware that you may change any detail related to sampling points that are already referenced by either samples or sampling point schedules; however, in doing so you may change the meaning of either. A better method is to add a new sampling point and use it with samples or schedules rather than to change any details of existing sample points.

Sampling Point and Location attributes along with other sample data establish required uniqueness criteria to ensure that duplicate samples are not entered. Due to the high volume of TCR samples entered on a regular basis, a means to simplify sampling point maintenance has been identified. A state can establish *generic* distribution system sample points. For example, a generic point for routine and corresponding repeat samples can be created for each water system. They can be called RPRT (routine distribution system sample), RPOR (repeat original), RPUP (repeat upstream), RPDN

**Exhibit 4-24. Sampling Point Maintenance**

(repeat downstream), and RPOT (repeat other). When TCR samples are entered they can be more easily linked to the appropriate (generic) sample points.

## Unique Facility Functions

Storage facilities, treatment plants, and wells each have a set of unique attributes that you may want to maintain. Because of these unique attributes, the WSF type cannot be changed once a WSF is added. If the type of WSF is wrong, delete the WSF and reenter it correctly.


### Storage Facilities

If you are maintaining information about a storage facility in addition to the six common functions, the Storage Facility Modification window (Exhibit 4-25) allows you to maintain storage details.

## Storage Detail

The Storage Detail Maintenance window allows you to maintain information specific to a storage facility such as type of construction material, coating, volume measure, altitude, pressurized indicators, elevation measure, and total elevation head (Exhibit 4-26).

Select Edit/Add Facility/Storage Facility (Exhibit 4-14).



**Storage Facility Modification**


<b>Water System</b>			
No.	ND5311825	Name	BUFFALO TRAILS CAMPGROUND
Federal Type	C	State Type	C
		Primary Source	GW

<b>Facility</b>	
State Asgn ID No.	4569
Type	ST
Name	BUFFALO PLAINS

Select Type of Information to Modify

☐ Basic Information  
☐ Annual Operating Periods  
☐ Facility Flows  
☐ Storage Detail

☐ Facility Contacts  
☐ Locational Information  
☐ Sampling Point



**Storage Facility Maintenance**

**ADD Maintenance Action**

<b>Water System</b>			
No.	ND0900134	Name	BUFFALO CITY OF
Federal Type	C	State Type	C
		Primary Source	GWP

Facility Name  Ext. Sys. No.

Local Name

State Asgn No.  FINDS No.

Storage Type  Pump Type

☐ Emerg. Power: Appr Des Cap  0 Unit  Constructed

Water Type  Availability

Activity  
 Status  Reason   
 Date

**Exhibit 4-25. Storage Facility Modification**



The image shows two overlapping software windows. The background window is titled 'Storage Facility Modification' and contains fields for 'Water System' (No. ND5311025, Name BUFFALO TRAILS CAMPGROUND, Federal Type C, State Type C, Primary Source GW) and 'Facility' (State Asgn ID No. 1234, Name CAMPGROUND, Type ST). It has buttons for 'Select Facility' and 'Exit'. A white box with the text 'Modification Window' and an arrow points to the foreground window. The foreground window is titled 'Storage Detail Maintenance - Change' and contains the following fields:

<b>Water System</b>	
No. ND5311025	Name BUFFALO TRAILS CAMPGROUND
Federal Type C	State Type C Primary Source GW
<b>Facility</b>	
State Asgn ID No. 4569	Name BUFFALO PLAINS
Construction Material <input type="text" value="COPPER"/>	Coating Type <input type="text" value="GREASED"/>
Effective Volume Measure <input type="text" value="125"/>	Measure Unit <input type="text" value="CUBIC FEET"/>
<input checked="" type="checkbox"/> Covered Indicator	Overflow Elevation Measure <input type="text" value="0"/>
<input type="checkbox"/> Altitude Valve Indicator	Total Elevation Head <input type="text" value="1.2"/>
<input type="checkbox"/> Pressurized Indicator	
<input type="button" value="OK"/> <input type="button" value="Cancel"/> <input type="button" value="Help"/>	

**Exhibit 4-26.** Storage Detail Maintenance

**River Reach Info** This button on the Storage Facility Maintenance window provides information concerning the watershed in which the WSF is located. Appropriate designation of the STORET (Storage and Retrieval is an EPA database) extension, hydrologic unit code, and river reach miles may be added in this window (Exhibit 4-25).

### *Treatment Plants*

If you are maintaining information about a treatment plant, in addition to the six common functions already described, you may wish to maintain information about treatment unit processes and unit process flows (Exhibit 4-27). Follow the same steps in the Treatment Plant Modification window as you followed in the Water System Facility Modification window (Exhibit 4-19).

**Treatment Unit Processes** The Treatment Unit Process Maintenance List allows you to add, change, or delete treatment unit processes. You may also select a treatment unit process from the list to assign to the current treatment plant. The Treatment Unit Processes Maintenance window allows you to add a new process or change an existing treatment process (Exhibit 4-28).

Double-clicking on an item from the Treatment Unit Process Maintenance List invokes the Treatment Assignment Maintenance List, which lists treatment objectives (process pairings) assigned to the selected treatment unit process (Exhibit 4-29). If the list is empty, you may add a new pairing.

Select Edit/Add Facility/  
Treatment Plant  
from the Water  
System Facility  
Maintenance List  
(Exhibit 4-13).

**Water System Facility Maintenance - Change**

Water System No. ND5311025		Name BUFFALO TRAILS CAMPGROUND	
Federal Type C	State Type C	Primary Source GW	

Facility Name HOT SPRINGS Ext\_Sys. No. 10923

Local Name

State Assign No. 2345 FINDS No. 2345 Constructed 06/30/1999

Type TREATMENT PLANT Non Piped Facility Type

☐ Emerg. Power App Des Cap 0 Unit GAL Pump HAND PUMP

Water Type GROUNDWATER Availability INTERIM

☐ No Treatment Ind Code Seller Treatment Unknown

Activity  
Status ACTIVE Reason  
Date 06/30/1999

**Exhibit 4-27. Treatment Plant Modification**

Click Treatment Unit Processes  
on the Treatment Plant  
Modification window  
(Exhibit 4-27).

**Treatment Unit Process Maintenance List**

Water System No. ND5311025		Name BUFFALO TRAILS CAMPGROUND	
Federal Type C	State Type C	Primary Source GW	

Facility State Assign ID No. Type TP

Treatment Unit Processes

TREATMENT UNIT VINEGAS POINT

**Treatment Unit Process Maintenance - Change**

Unit Process Name VINEGAS POINT

Type CHEMICAL FEEDER Diameter 3 Depth 3 Width 4

Aerator Type DIFFUSED AIR Sludge Removal Type SCRAPER

Continuous Disinfection Baffling Condition AVERAGE

Design Flow Rate 2	Overflow Rate 2	Surface Overflow Rate 2
Loading Rate 1	Paddle Speed Rate 1	Dosage or Feed Rate 0.000
Filter Media Type 3	Filter Media Depth 3	Velocity Gradient 2.00
Contact Time 0	Retention Time 0	CT Value 0
Basin Count 0	Subunit Count 0	<input type="checkbox"/> Washwater Recycled
		<input checked="" type="checkbox"/> Bypass Capability

Description

**Exhibit 4-28. Treatment Unit Process Maintenance**

The diagram illustrates the workflow for selecting treatment objective processes. It starts with two input windows: 'Treatment Unit Process Maintenance List' and 'Treatment Assignment Maintenance List'. Both windows have a 'Maintenance List' box. Arrows from these boxes point to a third window, 'Treatment Objective Process Pairing List', which displays a table of available processes.

**Treatment Unit Process Maintenance List Data:**

No.	ND5311025
Name	BUFFALO TRAILS CAMPGROUND
Federal Type	C
State Type	C
Primary Source	GW
Facility	
State Assign ID No.	2345
Name	HOT SPRINGS
Type	TP
	VINEGAS POINT

**Treatment Assignment Maintenance List Data:**

No.	ND0900134
Name	BUFFALO CITY OF
Federal Type	C
State Type	C
Primary Source	GWP
Facility	
State Assign ID No.	00000004412
Name	
Type	TP

**Treatment Objective Process Pairing List Table:**

Obj. Code	Objective Name	Proc. Code	Process Name
A	ADDITIONAL TREATMENT ELSEWHERE	121	ACTIVATED CARBON, GRANULAR
A	ADDITIONAL TREATMENT ELSEWHERE	147	AERATION, SLAT TRAY
A	ADDITIONAL TREATMENT ELSEWHERE	380	FLUORIDATION
C	CORROSION CONTROL	473	CONVERTED (FRDS-1.5)
C	CORROSION CONTROL	441	INHIBITOR, BIMETALLIC PHOSPHATE
C	CORROSION CONTROL	443	INHIBITOR, HEXAMETAPHOSPHATE
C	CORROSION CONTROL	445	INHIBITOR, ORTHOPHOSPHATE
C	CORROSION CONTROL	447	INHIBITOR, POLYPHOSPHATE
C	CORROSION CONTROL	449	INHIBITOR, SILICATE
C	CORROSION CONTROL	740	PH ADJUSTMENT
C	CORROSION CONTROL	741	PH ADJUSTMENT PRST

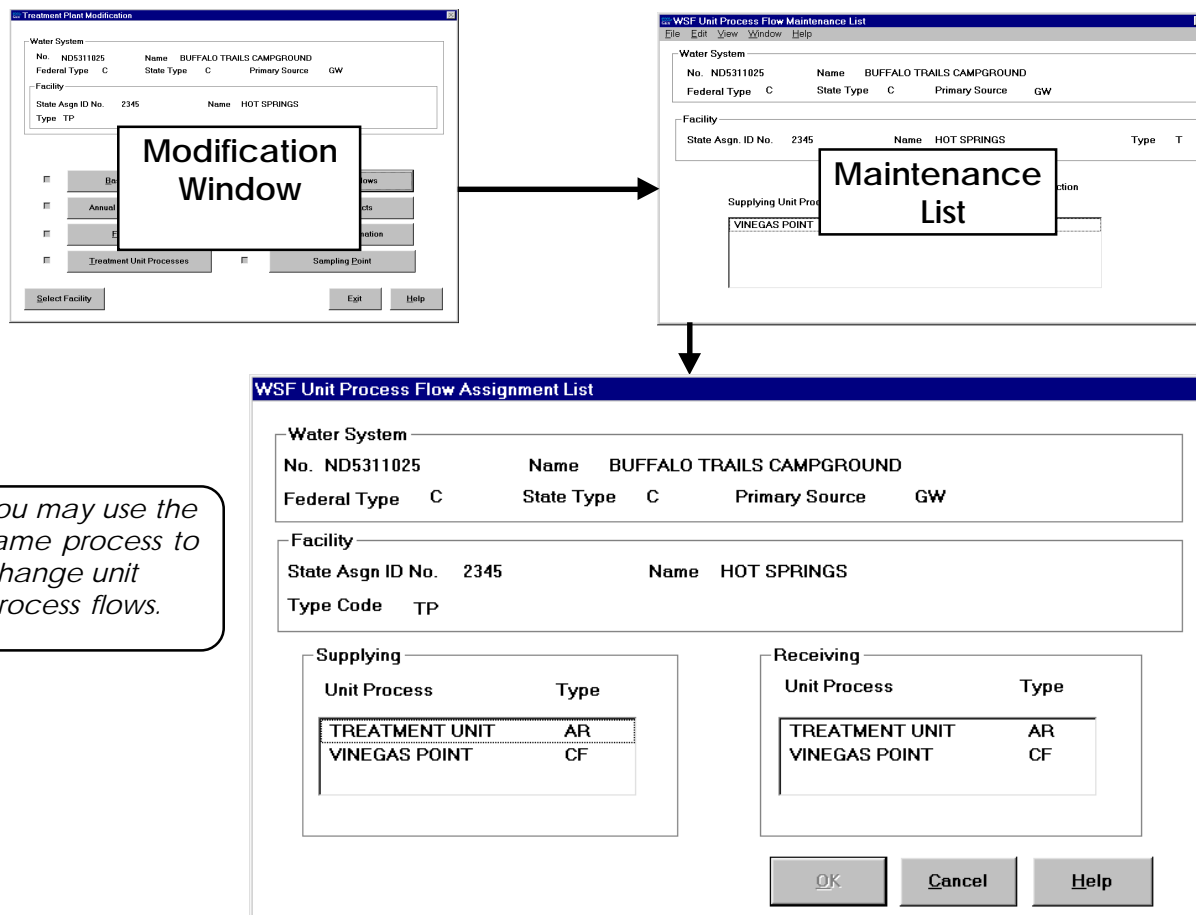
Buttons at the bottom: Previous, Next, Sorted By, Select, Cancel, Help.

**Exhibit 4-29.** Treatment Objective Process Pairing List

You may add state-owned or federally owned pairings. Innovative state-owned treatments can now be reported using *Migration to SDWIS/FED*. Selecting **Edit/Add** displays the Treatment Objective Process Pairing List. To select the Treatment Objective Process, highlight it and click on **Select**. Once you add treatment objective processes to the list, you can make any one of them primary.

## Unit Process Flows

The WSF Unit Process Flow Maintenance List allows you to connect supplying unit processes with receiving unit processes and to specify the connection type as either direct or indirect. (Since a unit process cannot flow to itself, you need at least two processes to create a flow.) New unit process flows are displayed in the WSF Unit Process Flow Maintenance List. Once you create a unit process flow, you can double-click on it to change its connection type or delete it (Exhibit 4-30).



**Exhibit 4-30.** WSF Unit Process Flow Assignment List

## Wells

If you are maintaining additional information about a well besides the six common functions already described, you may wish to maintain information about well details, screens, casing, and logs (Exhibit 4-31).

**Well Detail** The Well Detail Maintenance window allows you to maintain basic well information such as the *Well ID Number* (Exhibit 4-32). Follow the same steps in the Well Modification window as in the Storage Facility Modification window (Exhibit 4-25). All the windows except the Well Detail, Well Screens, Well Casing, and Well Logs windows have the same basic information.

The diagram illustrates the workflow for well modification. It starts with the **Water System Facility Maintenance List** window, which displays a list of facilities. A facility is selected, and the user is directed to the **Well Modification** window. In this window, the user selects the type of information to modify (e.g., Basic Information, Well Detail, etc.). The user then selects a facility, which leads to the **Water System Facility Maintenance - Change** window. This window contains various fields for editing well information, including Facility Name, State Assign No., Type, Water Type, and Activity.

**Water System Facility Maintenance List**

Activity	Type	State Assign ID No.	Facility Name
A	ST	1234	
A	ST	4568	
A	SS	181	
A	DS	950	
A	TP	2345	
A	WL	601	
A	WL	4321	

Search Criteria Used: NUMBER  
Number of Records Found: 7

**Well Modification**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW

Facility  
State Assign ID No. 001 Name WELL  
Type WL

Select Type of Information to Modify

<input type="checkbox"/> Basic Information	<input type="checkbox"/> Well Detail
<input type="checkbox"/> Locational Info	<input type="checkbox"/> Well Screens
<input type="checkbox"/> Annual Operating Periods	<input type="checkbox"/> Well Casing
<input type="checkbox"/> Facility Flows	<input type="checkbox"/> Well Logs
<input type="checkbox"/> Facility Contacts	<input type="checkbox"/> Sampling Point

Select Facility [ ] Exit [ ] Help [ ]

**Water System Facility Maintenance - Change**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW

Facility Name WELL Ext. Sys. No. 1230

Local Name [ ]

State Assign No. 001 FINDS No. [ ] Constructed [ ]

Type WELL Non Piped Facility Type [ ]

☐ Emerg. Power App Des Cap [ ] Unit [ ] Pump [ ]

Water Type GROUNDWATER Availability PERMANENT

☐ No Treatment Ind Code Seller Treatment Unknown

Activity  
Status ACTIVE Reason CONVERTED  
Date 01/01/1901

River Reach Info [ ] Current Date [ ] OK [ ] Cancel [ ] Help [ ]

**Exhibit 4-31. Well Modification**

**Well Screens** Click on this button to display the Well Screen Maintenance List, where you may add, change, or delete well screen information. Add new or change existing information such as *Depth to Screen Top* and *Screen Bottom* on the Well Screen Maintenance window (Exhibit 4-33).

**Well Casing** The Well Casing Maintenance window allows you to maintain information describing the well casing material (Exhibit 4-34). A well casing is a tube used to section off various formations and/or support the walls of the well's borehole in a specific interval of the well. Examples of well casing materials include PVC, tile, rock or stone, brick, and fiberglass.

**Well Logs** The Well Log Maintenance window allows you to maintain a checklist of logs available for a given well (Exhibit 4-35). To choose a particular log from the list, click on the box next to the log name.

**Well Modification**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW

Facility  
State Asgn ID No. 001 Name WELL  
Type WL

Buttons: [Issue], [Log], [Annual Op], [Edit], [Facility Contacts], [Sampling Point], [Select Facility], [Exit], [Help]

**Modification Window**

**Well Detail Maintenance - Change**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW

Facility  
State Asgn ID No. 001 Name WELL

Well ID No. 1256 Diameter in Inches 1 Grout Depth in Ft 1.1

Draw Down Depth Ft 1.1 Depth At Completion in Ft 1.1

Pump Capacity GPM 12 Pump Type 21 Yield in GPM 0

Type HORIZONTAL GALLERY Well Covering

Static Water Level Depth in Ft 0.0 Static Wtr Depth Obsrvtn Date 07/12/1999

Well Use

Buttons: [Current Date], [OK], [Cancel], [Help]

**Exhibit 4-32. Well Detail Maintenance**

**Modification Window**  
See Exhibit 4-31

**Maintenance List**

**Well Screen Maintenance List**

File Edit View Window Help

W No. ND5311025 Name BRIARWOOD CITY OF  
Federal Type C State Type C Primary Source GU  
Facility  
State Asgn ID No. 000000004414 Name  
Well ID No.  
Id Code USGS A Depth To Top

**Well Screen Maintenance - Add**

Water System  
No. ND5311025 Name BUFFALO TRAILS CAMPGROUND  
Federal Type C State Type C Primary Source GW  
Facility  
State Asgn ID No. 001 Name WELL  
Well ID No.

Identification Code 345  
State Aquifer Code 345  
USGS Aquifer Code 345  
Depth To Screen Top in Ft 1.0  
Depth To Screen Bottom in Ft 10.0  
Depth To Top of Aquifer in Ft 2.0  
Aquifer Thickness in Ft 33.0

Aquifer Type ARTESIAN  
USGS Aquifer Name 345  
Screen Type  
Lithology Type  
☒ Confinement Indicator

OK Cancel Help

*You may use this same process to change well screens.*

Exhibit 4-33. Well Screen Maintenance

**Modification Window**

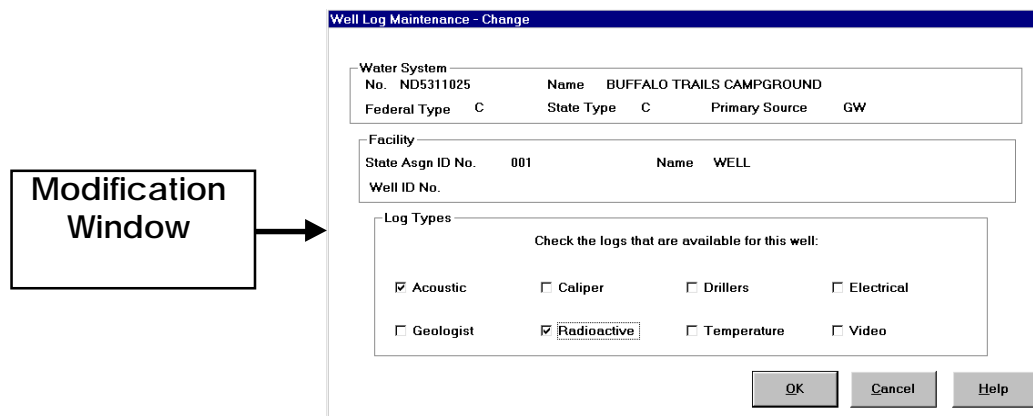
**Well Casing Maintenance - Change**

Water System  
No. ND9412855 Name AAPPLE WATER SYSTEM  
Federal Type C State Type C Primary Source SW  
Facility  
State Asgn ID No. 0827993 Name KOBE  
Well ID No.

Casing Diameter in Inches 10 Casing Depth in Ft 0.0  
Casing Type

OK Cancel Help

Exhibit 4-34. Well Casing Maintenance



The diagram shows a 'Modification Window' box on the left with an arrow pointing to a larger window titled 'Well Log Maintenance - Change'. The 'Well Log Maintenance - Change' window contains the following fields:

Water System			
No.	ND5311025	Name	BUFFALO TRAILS CAMPGROUND
Federal Type	C	State Type	C
		Primary Source	GW

Facility	
State Asgn ID No.	001
Name	WELL
Well ID No.	

Log Types

Check the logs that are available for this well:

<input checked="" type="checkbox"/> Acoustic	<input type="checkbox"/> Caliper	<input type="checkbox"/> Drillers	<input type="checkbox"/> Electrical
<input type="checkbox"/> Geologist	<input checked="" type="checkbox"/> Radioactive	<input type="checkbox"/> Temperature	<input type="checkbox"/> Video

At the bottom right of the window are three buttons: OK, Cancel, and Help.

**Exhibit 4-35.** Well Log Maintenance

## Water System Groups

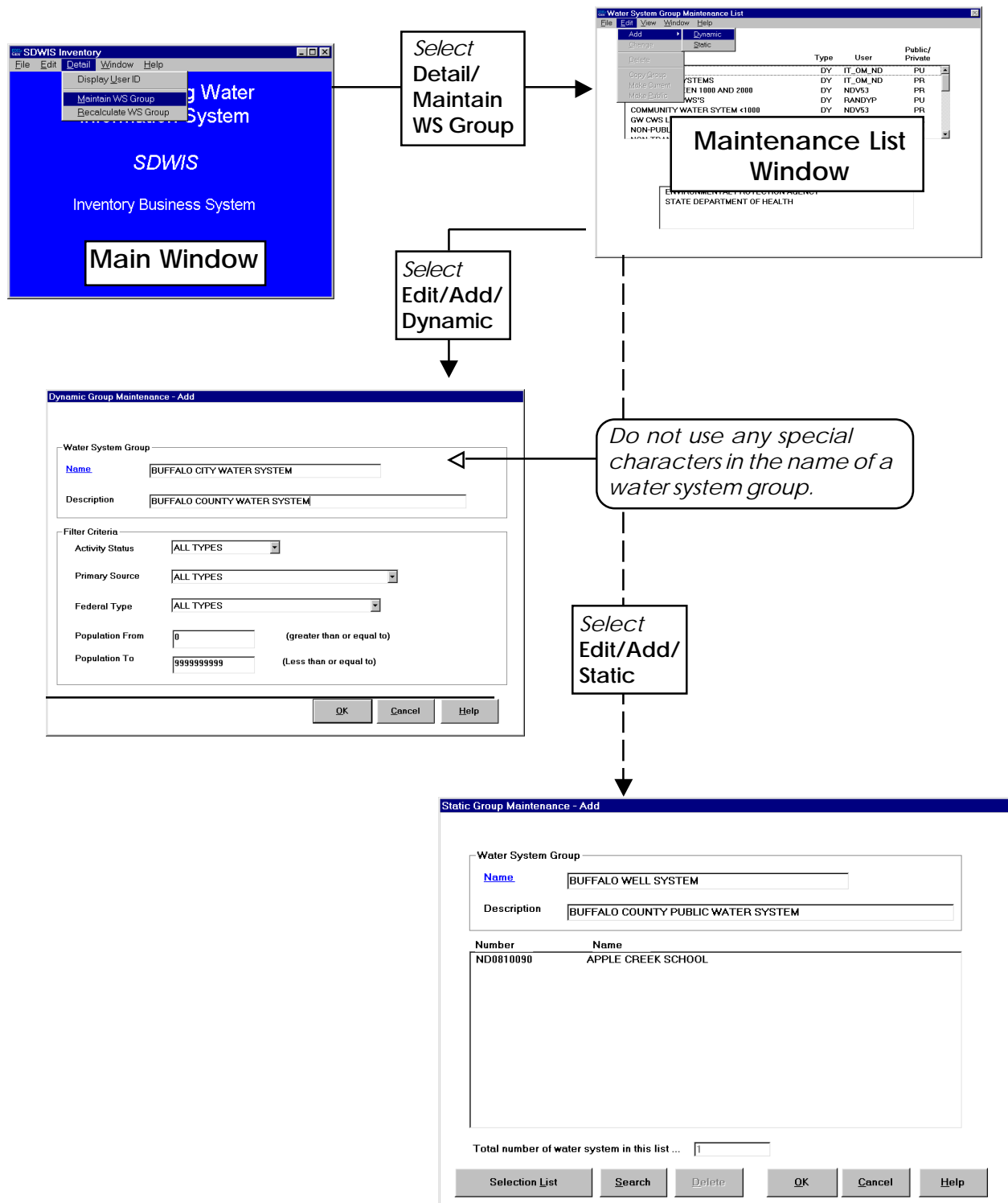
You can maintain water system groups by selecting **Detail/Maintain WS Group** (Exhibit 4-36) throughout the application (in the *Inventory*, *Sampling*, and *Monitoring and Noncompliance* components). Water system groups provide a means to organize water systems in functional groupings that are meaningful to a user. See Appendix A for information on troubleshooting water system groups.

Also under the **Detail** menu in the *Inventory* main window, you can recalculate water system groups. Dynamic groups are recalculated upon request and upon selection of the group. If you make numerous changes during your session, choose **Detail/Recalculate WS Group** to refresh the contents of the dynamic group.

In addition to government agency access, there are two types of water system groups:

- Dynamic* These groups are defined by the characteristics of the water systems within the primacy agency. Selection criteria include activity status, primary source, federal type, and population range. The contents of the group change dynamically (when recalculated) as the water system characteristics change.
- Static* These groups are defined by an explicit selection of water systems from the Water System List. The list may include all water systems regulated by one of the user's government agencies or groups, depending on what was current when the group was created. The contents of the group change only by explicit direction of the group's owner. You may create Static groups for use in scheduling data review and entry for a finite list of water systems. A Static Water System Group can be composed of up to 1000 water systems.



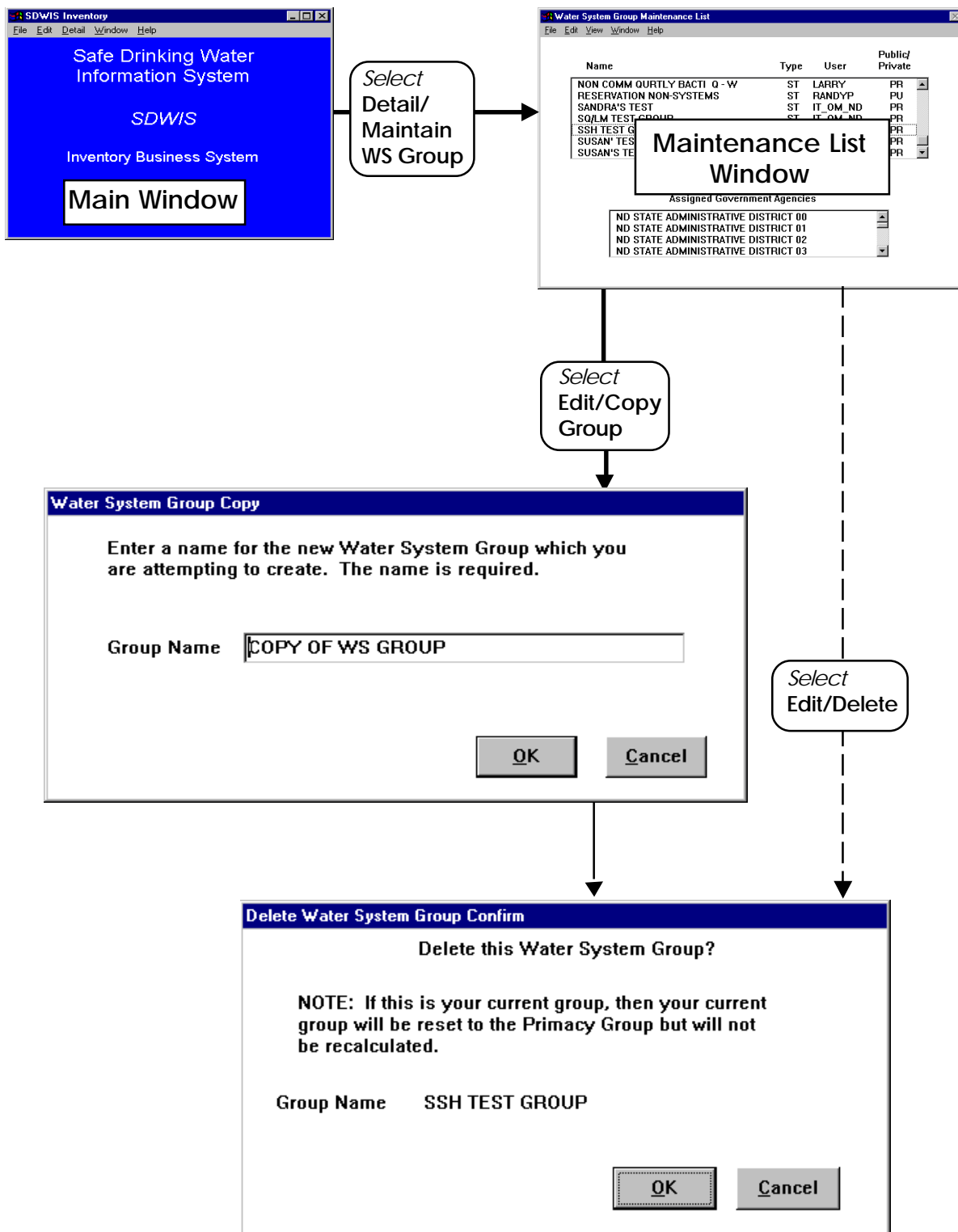
**Exhibit 4-36. Dynamic and Static Group Maintenance**

Many government agencies are large and have a considerable amount of data. This size can affect the performance of the application. To make your session more efficient, establish small groups of selected water systems. (When naming groups or creating water system names, do not use special characters, such as apostrophes, dashes, etc.) The application can access all existing groups, but you must select one group or government agency to work with at a time. To select a group or agency with which to work, click on the appropriate row in the Water System Group Maintenance List or Assigned Government Agencies List and select **Edit/Make Current**. This establishes the finite set of water systems for the current SDWIS/STATE session. **Make Current** is the only **Edit** menu item available when a government agency is selected.

In addition, water system groups can be made public in the Water System Group Maintenance List. Groups are privately owned by default. A group can be made public only by a SDWIS/STATE Administrator or the group creator and can then only be modified by the Administrator or creator. Public groups can be used by any registered user, while private groups can be used only by the group's creator. Once a group is made public, it cannot be made private again. Selecting water systems for a group should be based on the utility of the group for routine data entry and preliminary noncompliance determination.

Public groups can be copied so the user can easily begin working with a previously defined group of water systems. Private groups and government agency groups cannot be copied. When selecting **Edit/Copy Group**, give a unique name to the new group (Exhibit 4-37). It will then be added to the Water System Group Maintenance List as the current user's private group.

Groups can be deleted by selecting **Edit/Delete**. SDWIS/STATE Administrators can delete any public or private group that is not current for any users. All other types of users can delete any public group and their own private groups that are not current for any users. When entering *Inventory*, you may first need to use the **Detail** menu. Under **Detail**, you can maintain and recalculate water system groups. Dynamic groups are recalculated upon request and upon selection of the group. If you made numerous changes during your data maintenance session, choosing **Detail/Recalculate WS Group** refreshes the contents of the dynamic group. Note: In Dynamic Groups, the *All Types* designation for Primary Source and Federal Type is the default value. There is also a blank selection. If you choose *All Types* for either Primary Source or Federal Type and return to the Group Maintenance window, those rows return blanks. This is the appropriate return. Blanks represent the default condition.

**Exhibit 4-37.** Copying and Deleting Water System Groups

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## Sampling Defined

A sample is a specimen of water taken for the purpose of determining water quality in source (raw) or treated water. Compliance samples are typically collected at representative sampling points within the distribution system or at entry points to the distribution system.

Periodically, samples are collected at the consumer's tap or at the water source. Most samples that you enter into SDWIS/STATE are of type Routine, but they also may be Repeat, Confirmation Replacement, Special, and so on.

Samples taken for compliance are for a specific water system, taken at a specific sampling point, on a specific date, and analyzed by a specific laboratory; these samples must meet a set of basic edit checks that ensure that a water system, sampling point, laboratory, and collection date identified for the sample. Routine samples are collected to comply with basic sampling requirements. Repeat or confirmation samples are collected when routine samples exceed a health protection level. Special sample types are collected for purposes other than compliance determination. Replacement samples are collected when originals are lost or damaged as sample analyses are invalidated.

Samples and results collected and captured in SDWIS/STATE for purposes other than compliance do not need to meet the same stringent edit checks imposed on "for compliance" samples and results.

## Prerequisite Information

Before using *Sampling*, check that you are ready to use this component.

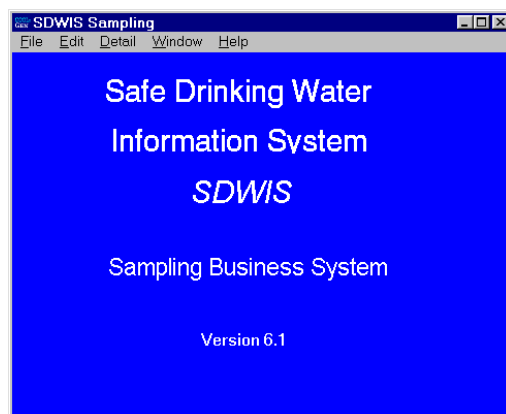
- *Your inventory tables (described in Chapter 4) should be populated either with data extracted from SDWIS/FED or from your local information sources.*
- You should have added any laboratories that your samples may reference.
- Maintenance of sample collectors as legal entities is not required in SDWIS/STATE, but if you wish to capture them in this way during sample maintenance, enter them in advance. (Collector Name may also be maintained as a field that is part of the Sample (TSASAMPL) table.)
- Analyte groups facilitate the entry of chemical samples. They are defined locally to contain the specific chemicals that you decide are appropriate. Having analyte groups defined first will make chemical sample entry easier and faster.
- Sample summaries require a monitoring period. These monitoring periods must exist in the database prior to creating sample summaries.

- If you are adding Total Coliform Rule (TCR) samples and results, you need an adequate supply (12-18 months) of future TCR monitoring periods (monthly and/or quarterly duration) in your database. To ensure proper accounting by SDWIS/STATE's automated TCR noncompliance determination process, Total Coliform sample results must be associated with a monitoring period that is in turn associated to the water system (for which the sample was taken) and TCR. If you recently executed TCR NCD Setup as part of *Migration to SDWIS/STATE*, your future TCR monitoring periods should be ready. If you have used SDWIS/STATE for some time and are running out of TCR monitoring periods, you will need to create new ones. You may wish to "set them up" for TCR by following the strategy recommended in Chapter 6 (Monitoring and Noncompliance Determination) of this Guide.

## Sampling Main Menu Options

Exhibit 5-1 lists the options available under the **Edit** menu item on the *Sampling* main menu:

**Add Sample/By Laboratory**  
**Add Sample/By Water System**  
**Maintain Sample/By Laboratory**  
**Maintain Sample/By Water System**  
**Add Sample Summary**  
**Maintain Sample Summary**



**Exhibit 5-1.** Sampling Main Menu

These options allow you to add/maintain individual samples and to add/maintain sample summaries. The online *Sampling* component assumes that you have batches of samples and results clustered either by laboratory or by water system. The sample maintenance menu options are available from these two perspectives: by laboratory or water system. Selecting either of these options links you to the corresponding search window. If you do not know an exact laboratory or water system number, you may perform a search. Double-clicking on any name in the list takes you to the Sample Category Selection window with your selected lab or water system displayed at the top. Exhibit 5-2

illustrates the dual-path organizational structure of the sample maintenance windows of the *Sampling* component. The sample summary maintenance menu items are available solely from the “by water system” perspective.

SDWIS/STATE supports the entry of Total Coliform, lead and copper, chemical, radionuclide, general microbiological, water quality, and general categories of samples. Samples can be entered or maintained as single sample events or composite sample events (chemical and radionuclide samples). The specific sample and result maintenance windows vary according to the sample category you select.

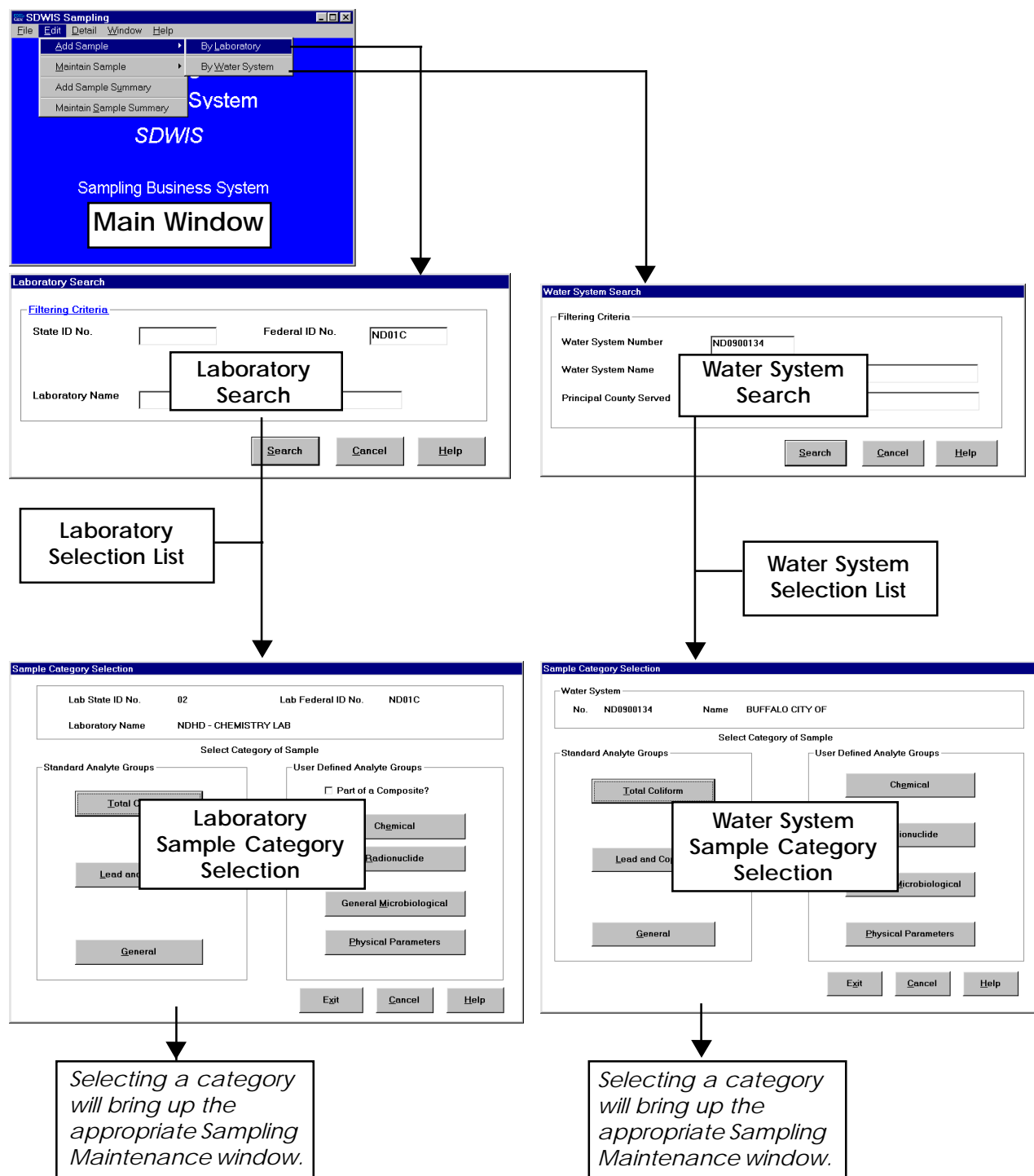
To comprehensively cover the complexities of online *Sampling*, this chapter describes the steps associated with adding or maintaining a sample and result or sample summary using the following representative scenarios:

- Add TCR Sample by Water System.
- Add Repeat TCR Sample by Water System.
- Add Chemical Sample by Lab with Single Analytical Result.
- Add General Microbiological Sample with Analyte Group.
- Add Chemical Sample Results with Analyte Group.
- Composite Sampling.
- Add Radionuclide Composite Sample.
- Maintain Sample by Laboratory or by Water System.
- Sample Analysis Summary.
- Add Sample Analysis Summary.
- Add Sample Analysis Summary for TCR.
- Add Sample Analysis Summary Lead and Copper.

Some features and fields are common to all sample maintenance windows; the explanation for these occur once and are not repeated for subsequent windows where the feature or field occurs. In general, you will see the same fields on a window for the same sample category whether you are taking the “by lab” or “by water system” perspective. For example, the fields and features on TCR Sample Maintenance by Lab are the same as those on the TCR Sample Maintenance by Water System. Features and/or fields that are unique to a particular category of sample (e.g., TCR versus chemical sample) are covered during the discussion of that sample category. Please note that samples and results may also be entered into SDWIS/STATE using the *Sampling via EDI* component, which is covered in Chapter 7 of this Guide.

## Add TCR Sample by Water System

After selecting the Add Sample by Water System menu item and specifying a water system, you are presented with the Sample Category Selection window where you must specify the category of the sample you wish to enter. The water system number and name are displayed at the top of the window.



**Exhibit 5-2.** Two Paths For Adding Samples: By Laboratory or By Water System



The Sample Category Selection window (Exhibit 5-2) allows you to choose among seven categories of samples. The three sample categories on the left allow you to enter sample results using standard, predefined analyte groups. (“General” may be used when you do not know the sample category.) The four sample categories on the right allow you to enter your sample results using a user-defined analyte group or to enter a single sample result using no analyte group. Press the **Total Coliform** button to display the TCR Sample Maintenance by Water System window (Exhibit 5-3).

The TCR Sample Maintenance by Water System window opens with the Compliance Sample check box checked “for compliance.” Samples taken “for compliance” are subject to fairly stringent edit checks (imposed by TCR), which are lifted if you remove the check in the Compliance Sample check box. Lab Sample No. and State Sample No. are optional; however, tracking your samples is easier if you value one of these fields. Collection Date is mandatory; all samples, including those not taken for compliance, must have a collection date. From this point forward, this guide assumes that the TCR sample you are entering is “for compliance.” The Collection Time and Date Lab Receipt fields are optional. (If you do not use the Lab Sample No. or State Sample No. fields, you will almost certainly need to enter Collection Time in order to establish the sample’s uniqueness). Sample Type is mandatory. For TCR samples, two types are valid: Routine (RT) and Repeat (RP). If the sample replaces one previously taken, indicate this by checking the Replacement check box. Record the lab where the sample was assessed in either the Lab State ID No field or the Lab Name field. These are both attributes of Laboratory. A **Go To** button to the right of Lab State ID No. accesses the list of available labs. Sampling Point/Sample Location is also mandatory. These are both attributes of sampling point.

Because SDWIS/FED does not maintain sampling points and several states and regions start their database with an extract from SDWIS/FED, some SDWIS/STATE users do not have sampling points in their database when they are ready to begin using the *Sampling* component. From the TCR Sample Maintenance window, SDWIS/STATE assists you in creating sampling points (that you reference in your sample) and associating the new sampling point with a water system facility that you select:

- A **Go To** button accesses a list of sampling points currently associated to their water system.
- You may enter either a Sampling Point or Sample Location on the TCR Sample Maintenance window. When the application detects that the sampling point is new, you are asked if the new point should be associated to the distribution facility (Exhibit 5-4). You also have the chance to enter an optional Sample Location if you have not previously done so.

If you press **Yes**, the application retrieves the distribution system water system facility belonging to the current water system, creates the new sampling point, and associates the new sampling point with the distribution system water system facility. If the current water system has no distribution system facility, SDWIS/STATE asks you if one should be created. If you press **Yes**, SDWIS/STATE creates a new water system facility of type DS, with State Assigned ID of 000000000000 and associates it with the current water system. Note that the application has no intrinsic knowledge of the water system facility’s details other than type, status, and activity date. Update the new distribution system (including changing

**TCR Sample Maintenance By Water System - Add**

☒ Compliance Sample

Water System No. ND4001153      Name ALL SEASONS WUA-SYSTEM IV

Lab Sample      State Sample No.

Collection Date 05/15/1999      Collection Time      Date Lab Rcpt

Sample Type Routine-RT      ☐ Replacement      Repeat Location

Lab State ID No. 02      Lab Name NDHD - CHEMISTRY LAB

Sampling Point 101      Sample Location SINK

Sample Volume 100 ml      Sample Rejection Reason

Monitoring Period      Collector Name

**Total Coliform Result**

☒ A    ☐ C    ☐ P    Count 0      Lab Comments

Vol Assayed      Method      QA Accepted      QA Reason

**Acute Speciation Result**

Acute Speciation

☒ Fecal    ☐ E Coli    Count 0      Method

Vol Assayed

☒ A    ☐ P    Lab Comments      QA Accepted      QA Reason

New TCR Sample    Original Sample    Field Results    Comments    Dates    OK    Cancel    Help

*Select Original Sample to associate a repeat or replacement sample to an original sample.*

*Check the Replacement box for all samples that were collected to replace a rejected or invalidated sample.*

**Sampling Point/Facility Association**

This is a new Sampling Point and needs to be associated with a Water System Facility that belongs to the current Water System.

Sampling Point 101      Sample Location SINK

Do you wish to add this point to the Distribution System Facility ?

Yes    No, Other WS Facility    Cancel    Help

*Enter a Total Coliform Count greater than 0 in order to save Acute Speciation indication. Enter an Acute Speciation Count greater than 0 to save Acute Presence Indication.*

*An Acute Speciation Count that has been saved can be changed back to 0 by selecting A for Acute Presence.*

**Exhibit 5-3. TCR Sample Maintenance by Water System**

its State Assigned ID) using the *Inventory* component. If your current water system has more than one distribution system or zone, the software informs you that this is the case and invokes the Water System Facility Selection List, where you can choose the distribution system to which you wish to associate the new sampling point. You can also associate the new sampling point to other than a distribution system water system facility by pressing the **No, Other WS Facility** button on the Sampling Point/Facility Association dialog box. This flows you to the Water System Facility Selection List where you can choose from all the water system's facilities. SDWIS/STATE does not allow you to add a new sampling point without specifying to which water system facility it should be linked. SDWIS/STATE associates your new sampling point with the sample you are entering. (Once a sampling point is referenced by a sample, it cannot be deleted without first deleting all the samples that reference it.)

Sample Volume, Sample Rejection Reason, and Collector Name are optional fields. If you keep your collectors as legal entities, you can use the **Go To** button beside Collector Name to bring up the list of existing collectors. Use the Sample Rejection Reason to show that the sample was collected (as required) but due to a broken bottle, freezing, or some other reason, the lab could not assess it.

The TCR Sample Maintenance windows capture the sample and result information for Total Coliform (analyte code 3100) and the speciation analyte (either analyte code 3013 or 3014). The window defaults to "A" (absent) in the Total Coliform Result group box. To indicate a positive result, select "P" (present) and optionally enter Count, Count Type, and Count unit of measure.

Enter a Lab Comment if the lab assessed the result as "too numerous to count," "confluent growth," or "turbid culture-no gas." Analytical Method is an optional field. If SDWIS/STATE does not have the analytical method you wish to record, ask your SDWIS/STATE Administrator to add it using the Analyte Method Pairing feature in the *System Administration* component. If you enter a positive Total Coliform result, you will be able to enter speciation information. SDWIS/STATE identifies and associates the correct TCR monitoring period to your sample result(s) based on the Sample Collection Date that you entered and the periodicity specified in the routine/temporary routine TCR sample schedule that was active for the water system on the date the sample was collected. SDWIS/STATE will inform you if no monitoring period meeting this criteria was associated to the current water system and TCR. (If you receive this message when you press the **OK** button, you need to make the necessary Monitoring Period to Water System to TCR association using the *Monitoring and NCD* component. See Chapter 6 of this guide.) You cannot view the monitoring period that SDWIS/STATE selected until you create and then maintain your sample; if you do not agree with SDWIS/STATE's selection, press the **Go To** button beside the Monitoring Period field to select a different monitoring period from the Monitoring Period Selection List. TCR Results must be linked to a valid TCR monitoring period in order to be processed accurately during automated TCR NCD.

Finally, several buttons are aligned along the bottom of the TCR Sample Maintenance window:

**New TCR Sample** adds the sample and refreshes the window keeping the Collection Date, Sample Type, and Lab data in the fields to speed data entry.

<b>Original Sample</b>	allows association of a repeat or replacement sample to its original sample.
<b>Field Results</b>	allows entry of data such as water temperature, residual chlorine, and pH.
<b>Comments</b>	invokes the Sample Comments dialog box where you can capture any type of free text information about the sample.
<b>Dates</b>	invokes Analysis Dates and Times dialog box where you can enter Analysis Start and End dates for both the Total Coliform and speciation result.
<b>OK</b>	adds the sample and result(s) and displays the sample information on the Sample Maintenance List.

### Add Repeat TCR Sample by Water System

TCR and SDWIS/STATE require that with repeat samples, you specify the Repeat Location. The data in this field should be considered relative to the original sample's sampling point. You also need to link your repeat sample to the original positive TCR sample that triggered the need for the repeat. Automated TCR NCD anticipates at least a repeat sample at the original sampling point, one upstream, and one downstream of the original sampling point. (The original positive may have been a routine or a repeat sample). (SDWIS/STATE allows new routine samples to be linked to original routine samples. This link enables you to link replacement routines to the original routine (e.g., if an original routine results in confluent growth or is too old to be analyzed, you can link its replacement back to the original)). Repeat or Replacement (with replacement indicator checked) samples are linked to their original sample by using the **Original Sample** button. Enter new sample information (including Collection Date, Sample Type, Lab State ID No., and Sampling Point), then click on the **Original Sample** button to open the Original Sample Information dialog box (Exhibit 5-4). Enter the original sample's number in the Lab Sample No. field or perform a search to select from a list of candidate samples.

The selection criteria for candidate Repeat (that are not replacement) Samples are:

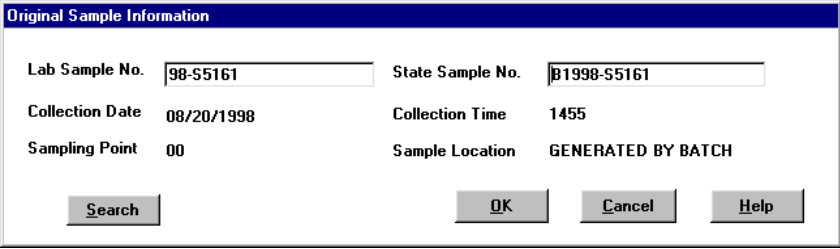
- Samples taken for the current sample's water system and
- Of the current sample's category (e.g., TCR) and
- Taken at the same water system facility as the current sample (the sample's sampling point belongs to the same water system facility as the current sample's sampling point) and
- Whose collection date is (on/before the current sample's collection date and on/after 6 months prior to the current sample's collection date) and
- Compliance indicator is the same as current sample and
- Samples whose sample type is "RT" or "RP" and

- No sample rejection reason and
- Sample is not a composite.

The selection criteria for all other Samples are:

- Samples taken for the current sample's water system and
- Of the current sample's category (e.g., TCR) and
- Taken at the same water system facility as the current sample (the sample's sampling point belongs to the same water system facility as the current sample's sampling point) and
- Whose collection date is (on/before the current sample's collection date and on/after 6 months prior to the current sample's collection date) and
- Compliance indicator is the same as current sample and
- Sample is not a composite.

If you choose to add your repeat sample without establishing linkage with the original sample, you will receive an advisory message letting you know that while you may continue, your repeat sample will not be processed and counted during automated TCR noncompliance determination. If you do not properly link your repeat samples to their original triggering samples, SDWIS/STATE's automated TCR noncompliance determination component will result in erroneous violations.



The dialog box is titled "Original Sample Information" in a blue header bar. It contains two columns of input fields. The first column has "Lab Sample No." with the value "98-55161", "Collection Date" with "08/20/1998", and "Sampling Point" with "00". The second column has "State Sample No." with "81998-55161", "Collection Time" with "1455", and "Sample Location" with "GENERATED BY BATCH". At the bottom, there are four buttons: "Search", "OK", "Cancel", and "Help".

Original Sample Information	
Lab Sample No.	98-55161
State Sample No.	81998-55161
Collection Date	08/20/1998
Collection Time	1455
Sampling Point	00
Sample Location	GENERATED BY BATCH
<input type="button" value="Search"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/> <input type="button" value="Help"/>	

**Exhibit 5-4.** Original Sample Information Dialog Box

If you wish to disassociate the current sample from the original sample, delete the Lab Sample No. and if supplied, the State Sample No. from the Original Sample Information window and press **OK**.

### Add Chemical Sample by Lab With Single Analytical Result

To add a chemical sample using the "by lab" perspective, select **Edit/Add Sample/By Laboratory** from the *Sampling* main menu. Clicking on this option invokes the Lab Search window. If you do not know an exact lab number or name, you may search and select one from the Laboratory Selection List. Double-clicking on any lab displays the Sample Category Selection window with your selected lab

displayed at the top. Select **Chemical**, then “No Analyte Group” on the Specify Analyte Group dialog box, and the Sample Maintenance by Lab window appears (for sample category Chemical). Most entry fields and buttons on this window have already been covered with the following exceptions:

**Water System No.** Enter the Water System No. and tab to the next field. This action retrieves the Water System Name. If the water system number is invalid, you receive a warning that gives you the opportunity to cancel and reenter (in the case of a data entry error) or select from a list of all water systems. Clicking on the **Go To** button displays the Water System Selection List containing water systems in your current group or regulating agency.

**Sample Type** If you specify a Confirmation sample in this field, you may wish to link it to an original routine sample. This link is intended to support the maintenance of confirmation samples, which can be found throughout the chemical regulations (e.g., Phase II, Phase V). You can add a Confirmation sample without linking it to its original Routine sample, but you will receive a Confirmation Linkage Advisory dialog box informing you that the linkage was not established. When linking a Confirmation Sample to an Original Sample on the Original Sample Information dialog box, the selection criteria for finding candidate original samples is the same as that listed for candidate repeat samples.

**Results** This button flows you to the Chemical Analytical Result Maintenance window. Enter an analyte code or press the **Go To** button and select an analyte from the list. Only chemical analytes are displayed. Sometimes the laboratory cannot detect an analyte with confidence at a level below the Maximum Contaminant Level (MCL) or below other rule levels. In such cases, the laboratory reports the value as either less than the federally regulated Minimum reporting Level (MDL) or less than the Lab Reporting Level (MRL), which is established by the lab as the lowest level they can accurately report using the methodology for a specific analyte. These “less than” values are sometimes referred to as “none detected” or “not quantifiable.” A concentration value is normally not entered in addition to a “less than” indicator. If your result shows a concentration, enter the value in the Concentration field as well as its unit of measure.

Exhibit 5-5 illustrates a typical window for a single Chemical Analytical Result, which is similar to the Radiological Analytical Result, Lead and Copper Sample Analytical Result, and Water Quality Parameter Analytical Result windows.

Chemical Analytical Result Maintenance - Change

Lab Sample No. 98-S2045 State Sample No. C1998-S2045  
Water System No. ND3900001 Sampling Point 950  
Collection Date 09/01/1998

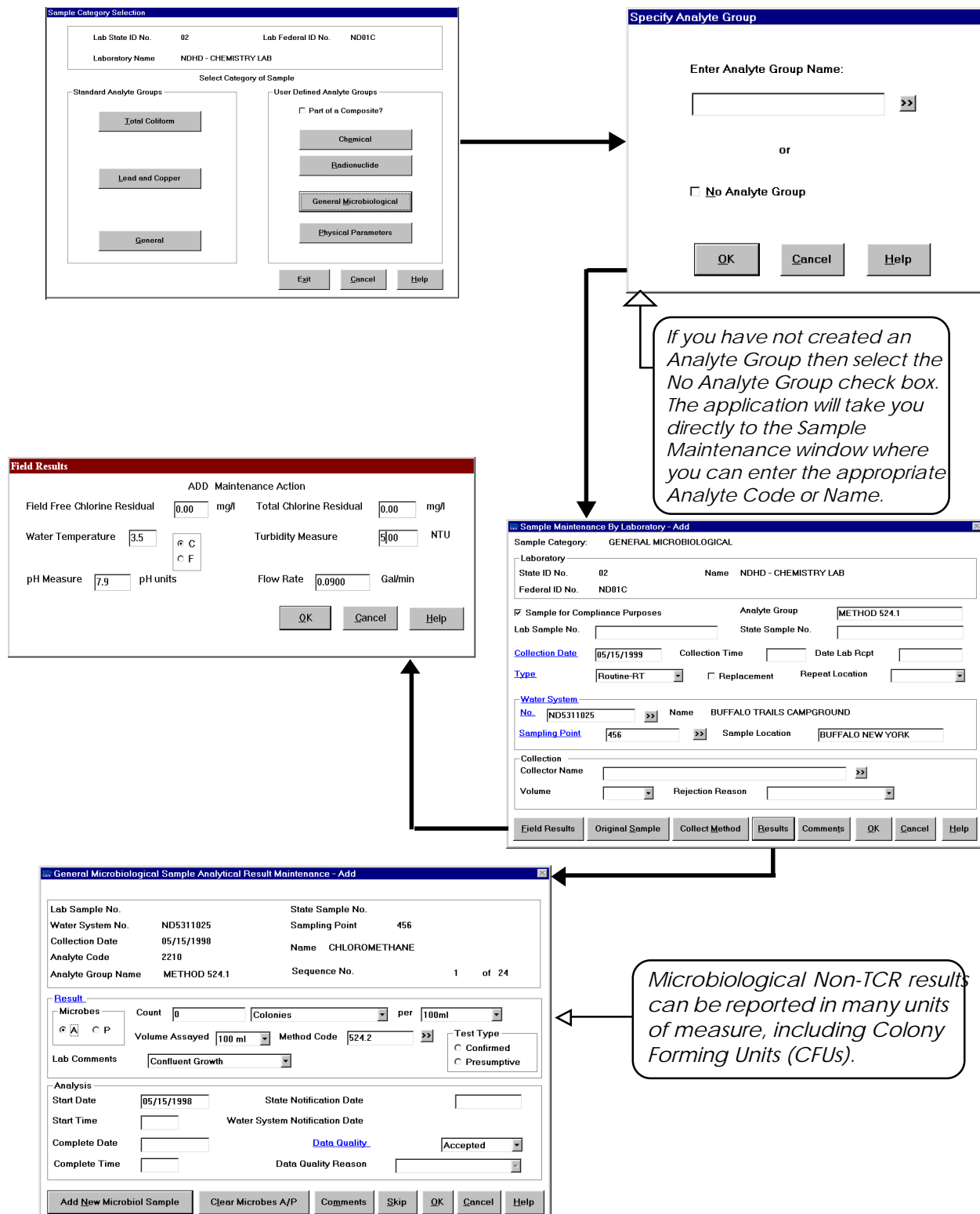
**Result**  
**Analyte Code** 1002 >> **Name** ALUMINUM **SDWIS/Fed**   
**Reporting Level Type**  
☒ Less Than ☐ Regulatory Minimum Reporting Level ☒ Lab Reporting Level **Level** 0.05000000 mg/L   
**Monitoring Period**   
**Concentration** 0   
**Method Code** >>

**Analysis**  
**Complete Date** **State Notification Date**   
**Complete Time** **Water System Notification Date**   
**Data Quality** Accepted **Data Quality Reason**   
  
New Chemical Sample Change Monitoring Period Comments OK Cancel Help

**Exhibit 5-5.** Chemical Analytical Result Maintenance

## Add General Microbiological Sample with Analyte Group

General microbiological sample analytical results such as for bacteria, virus, and parasite parameters can be stored as general microbiological samples. You can enter either a single result or you can speed the entry of multiple results using the Analyte Group function. The latter requires you to have an analyte group composed of microbiological analytes already in place. To add a general microbiological sample using the “by lab” perspective, select **Edit/Add Sample/By Laboratory** from the *Sampling* main menu. Enter or select your lab, then on the Sample Category Selection window, press **General Microbiological** enter the Analyte Group’s name on the Specify Analyte Group dialog box (or select from the list), which invokes the Sample Maintenance By Lab window (for sample category General Microbiological). Entry fields and buttons on this window have already been covered in this chapter. Note that your analyte group is displayed in the upper right. This field is disabled unless you select an analyte group. When you press **Results**, the first analyte in the group is displayed with its analyte code, name, analyte group name, and its sequence number within the group. If a microbiological result is accepted, it must be marked either present (P) or absent (A), or have a Lab Comment such as turbid culture, too numerous to count (TNTC), or confluent growth. After you enter the result information for the specified analyte, click on the **OK** button to display the next analyte in the group. If no result exists for an analyte in the group, the **Skip** button allows you to move to the next analyte in the group. The **OK** button keeps displaying the next analyte in the group until the last result is created. Click on the **OK** button after data entry is completed to display all results for the sample in the Result Maintenance List. The General Microbiological Sample Analytical Result window is shown in Exhibit 5-6.



**Exhibit 5-6.** General Microbiological Using Analyte Group Sample Result Maintenance



## Add Chemical Sample Results with Analyte Group

Chemical and radionuclide results are sometimes identical within an analyte group. By entering the result once for the first analyte in the group, then selecting the **Set Result to All Group** button, the specified result (either the concentration, the less than the federally Regulated Minimum reporting Level value, or the less than Lab Reporting Level value) is applied to all results in the analyte group with one click of a button. The **New Chemical Sample** button saves the current result and return to the Sample Maintenance window, where a new chemical result can be added. If you are adding results to an analyte group, press the **New Chemical Sample** button to save the results you added (even if all results were not entered), and flow to the Sample Maintenance window, where you can add a sample for a single analyte.

## Composite Sampling

Some of the monitoring requirements in drinking water regulations permit public water system owners to reduce the total number of samples that must be analyzed by allowing compositing. These samples can be collected from one or, in some cases, several, water systems and are combined in a laboratory to form a composite sample. The main purpose for this allowance is to reduce the analytical costs. Chemical composite samples are typically derived from one or more water systems and/or one or more sampling points. Each member sample of the composite is usually taken on the same day or within a few days. In accordance with monitoring rules, no more than five chemical samples may be added to a composite.

A second type of composite, the radiological composite, is required by primacy agencies when a grab sample, that is analyzed using a less accurate method, indicates that radiological activity may be approaching an MCL. The purpose of these composite samples is to better estimate exposure over a one-year period. Radionuclide composite samples are taken for one water system and typically one sampling point, but they are collected in different quarters and therefore have different collection dates. In accordance with the rules, no more than four radionuclide samples may be added to a composite.

Both types of composite samples can be maintained in SDWIS/STATE. Individual samples, known as “members,” are combined in the laboratory to form a composite sample. The composite sample is analyzed and produces an average concentration of analytes for all members of the composite.

## Add Radionuclide Composite Sample

Composite sample entry is only available from the Add Sample by Laboratory menu item. To add composite radionuclide sample using the “by lab” perspective, select **Edit/Add Sample by Lab** from the *Sampling* main menu. Enter or select your lab to flow to the Sample Category Selection window. Mark in the Part of a Composite? check box, press **Radionuclide**, select No Analyte Group (or you can select an Analyte Group) on the Specify Analyte Group dialog box, and you will flow to the Radionuclide Composite Sample Maintenance List. Enter your water system to enable the **Add** and **Multi Add** buttons. Enter the required sample information, press **OK**, then **Results** to flow to the

Radionuclide Sample Analytical Result Maintenance List. Here, you can view the members of the composite group by clicking on the icon. As with single samples, a composite member may not be deleted until all results associated with the composite sample are deleted. You may use analyte groups to enter the results of composite samples in the same way they are used to enter results for single samples. The number of results actually entered, however, increases by a factor for each member of the composite group. For example, if your analyte group contains 10 analytes (and you enter results for all 10 analytes) and your composite group contains four member samples, you actually create 40 analytical results (Exhibit 5-7).

## Maintain Sample by Laboratory or by Water System

**Maintain Sample** directs you to choose a path either by laboratory or by water system. Selecting either retrieves a laboratory or water system search window. You may either enter a valid laboratory or water system or click on **Search** to retrieve the appropriate selection list. After selecting the laboratory or water system, a window appears that allows you to select filtering criteria for the search (Exhibit 5-8). To narrow the list of retrieved samples to a manageable quantity, choose the filtering criteria that will yield your desired results. Note that if you choose not to use any filtering criteria (i.e., the **No Further Filtration** button), you cannot add any new results because SDWIS/STATE associates samples to rules through the sample category assignments. If a filter is not selected, SDWIS/STATE does not know which sample category should be associated with an added sample and, therefore, does not allow it. When your path is laboratory, you may also filter your samples by water system along with sampling point; likewise, when your path is water system, you may filter your samples by laboratory. Once the application retrieves the qualifying samples, they are displayed on the Sample Maintenance List. To modify a sample or its results, double-click on the desired sample. While multiple results may be added at one time for a sample, only one result can be maintained (modified) at a time for a sample. The exception to this rule is the two TCR Sample Maintenance windows.

## Sample Analysis Summary

Sample Analysis Summary Maintenance is available from the *Sampling* main menu. Monitoring requirements for a single water system can involve literally thousands of sampling events and analytical results during a monthly monitoring period. It is advantageous for water system, laboratory, and primacy personnel to have a means of summarizing sampling results while maintaining sufficient detail to determine compliance. Sample summaries can be added using windows that are specific to rules and analytes. There are specific summary windows for Lead and Copper, TCR, and general sample summary windows for other analytes.

## Add Sample Analysis Summary

The **Add Sample Summary** menu item takes you to the Sample Analysis Summary Search window where you may enter the water system whose results are to be summarized for the monitoring period. A general sample analysis summary compiles the results reported for one analyte and one

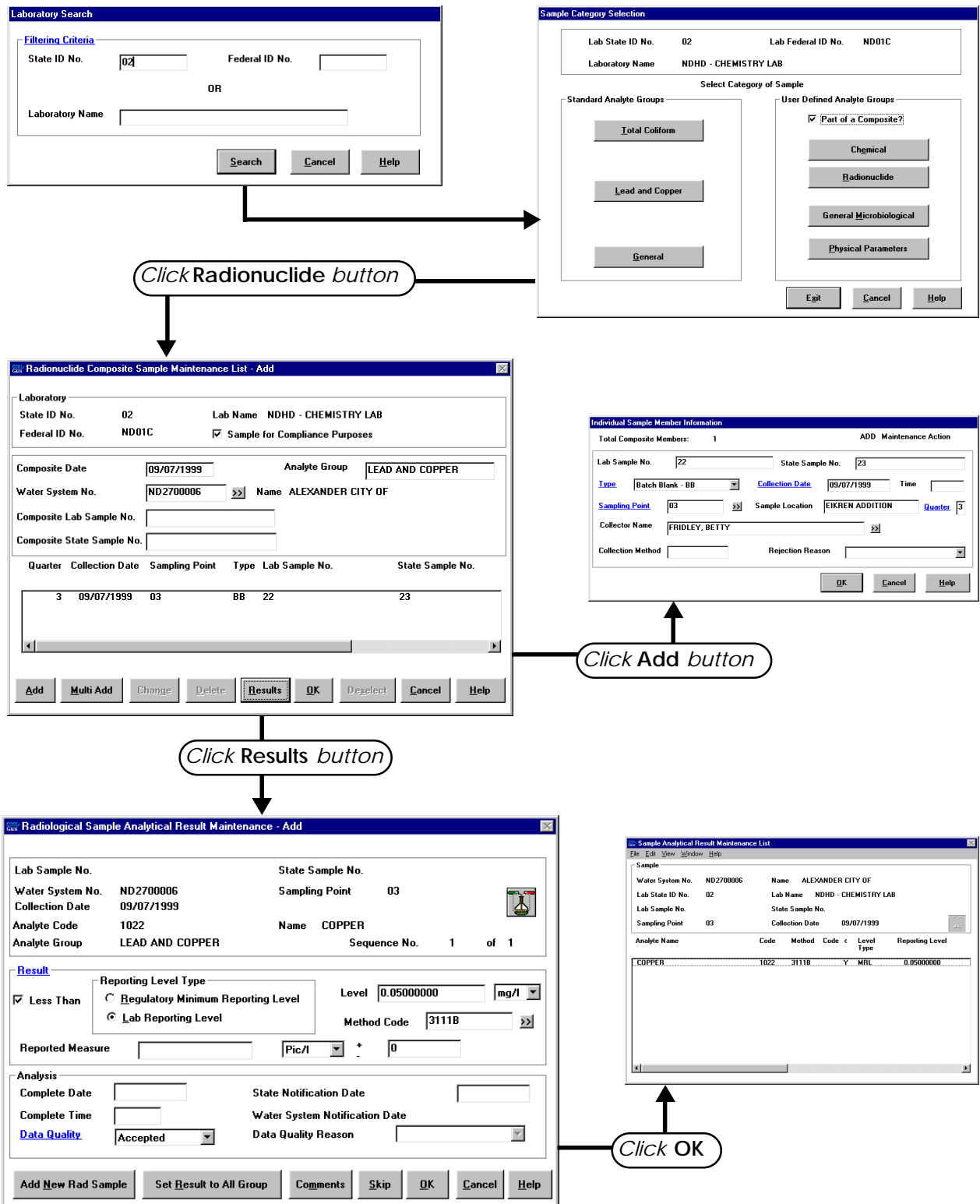
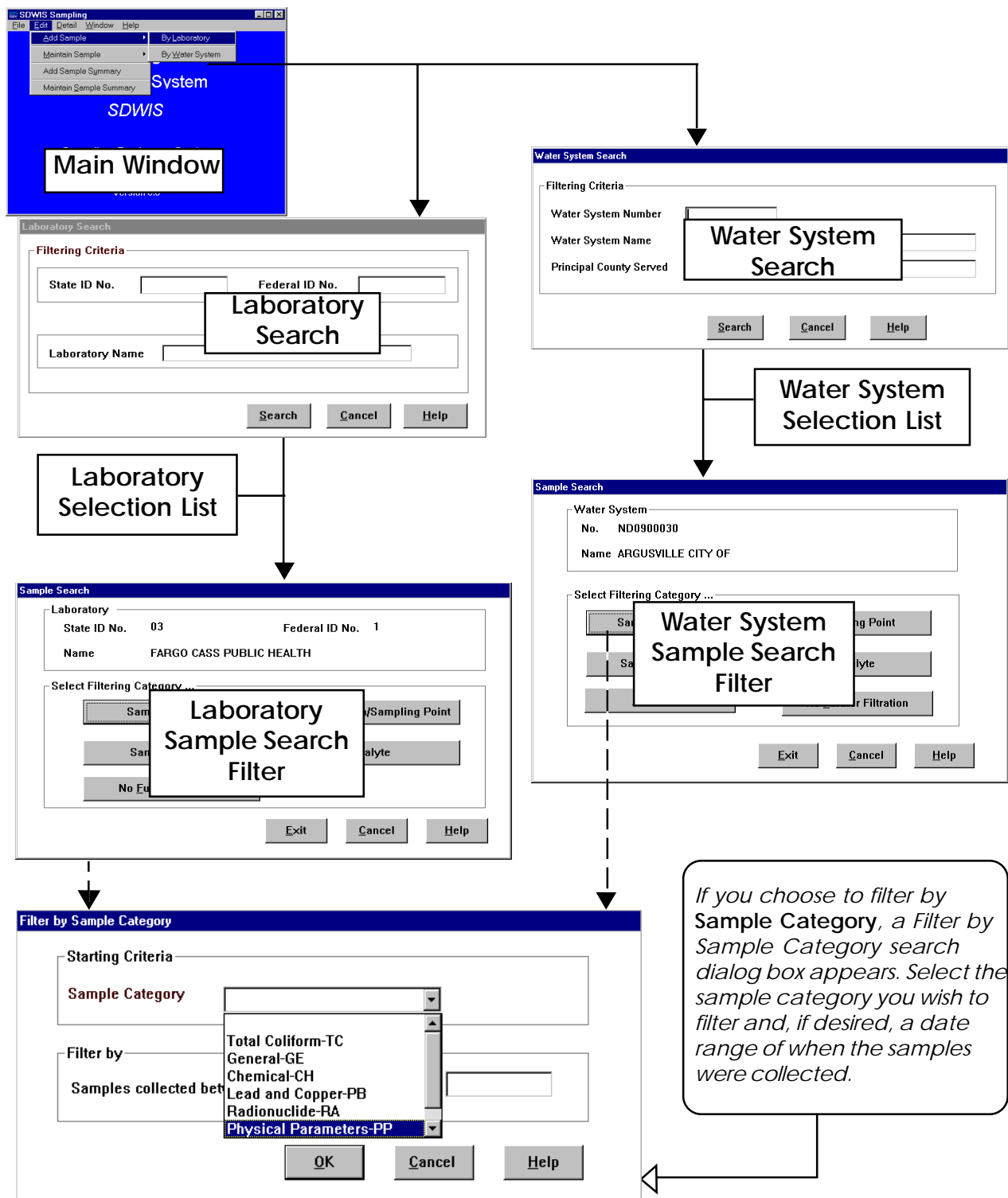


Exhibit 5-7. Radionuclide Composite Sample Result Maintenance

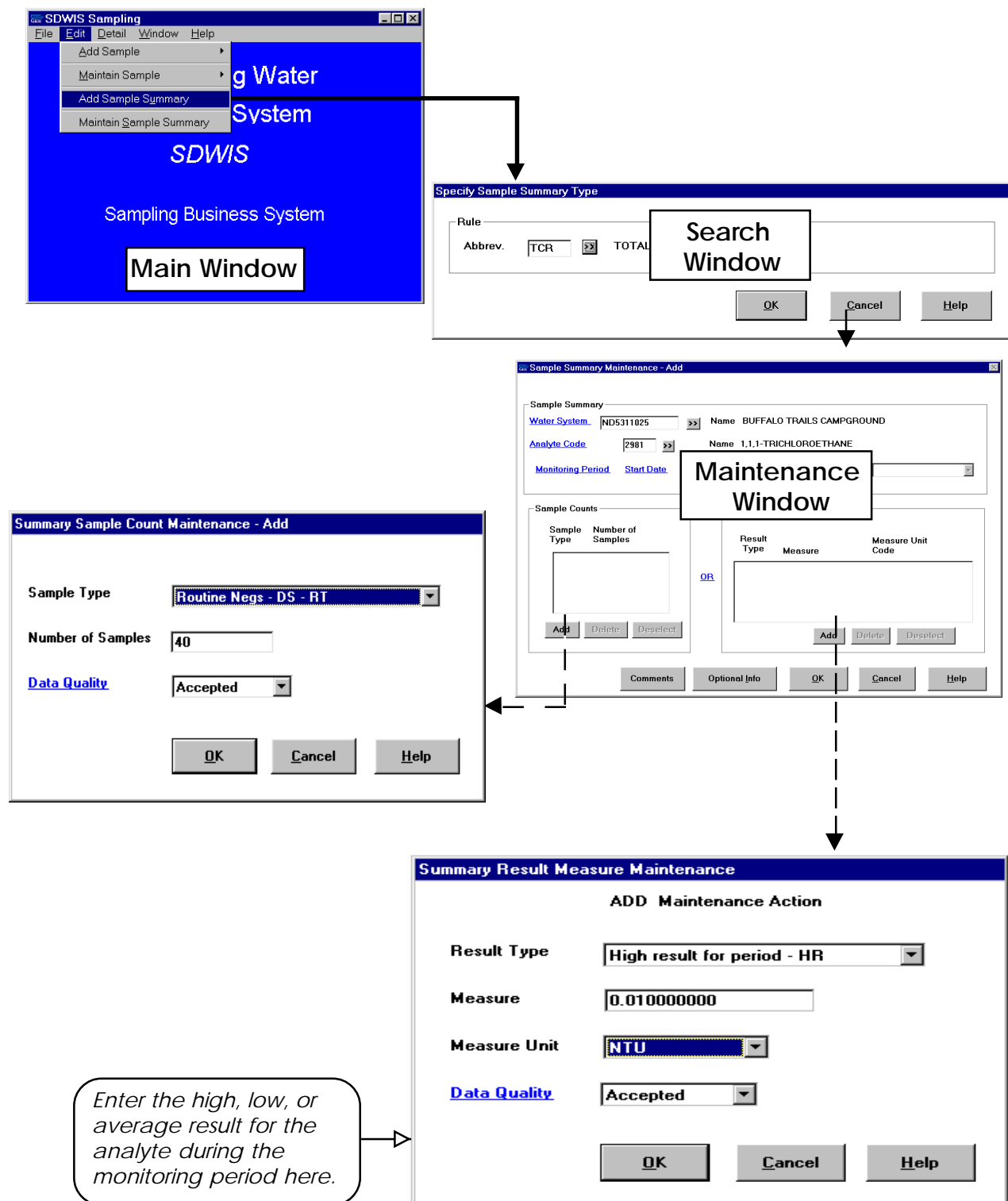


**Exhibit 5-8. Maintaining a Sample**

water system over a given monitoring period. Once a valid water system is retrieved, you must specify the analyte and monitoring period on the Summary Maintenance window. These fields are mandatory. In addition, at least one Summary Result Count or Summary Result Measure must be entered. An example of a Summary Result Count Maintenance window and a Summary Result Measure Maintenance window is shown in Exhibit 5-9. The **Optional Info** button retrieves the General Sample Analysis Summary Optional Information window. Optional information that may be associated with the sample summary includes the laboratory that performed the analysis, the analysis method code used, and the water system facility and sampling point where the samples were taken.

The Summary Result Count Maintenance window (Exhibit 5-9) records summary totals for a variety of result types. The Summary Result Measure Maintenance window records highest, lowest, and average measures of result concentrations. You may associate with the summary result counts and measures available in the dropdown lists. This sample summary type may be useful for entering summaries other than Lead and Copper and TCR, such as for chlorine residual or turbidity for a water system over a specific monitoring period.

The Maintain Sample Summary menu item allows you to modify previously added sample summaries by selecting the appropriate water system, which will link you to the Sample Analysis Summary Maintenance List. You may then select an existing sample summary to change or delete.



**Exhibit 5-9.** General Sample Summary Result Count/Summary Count Maintenance

## Add Sample Analysis Summary for TCR

The TCR Sample Summary Maintenance window allows entry and maintenance of a summary of samples for a water system and monitoring period all of whose results were negative for Total Coliform. Use this window to rapidly enter the results of a month's worth of samples for a system where all results were negative. All positive samples and results must be entered individually using the online TCR Sample Maintenance window or by using the *Sampling via EDI* software. SDWIS/STATE counts TCR Sample Summary results when calculating monitoring compliance for a water system. However, TCR MCL violations are always derived as a product of discrete samples and results. In other words, no MCL compliance is calculated based on summary results. It is expected that all positive results will be entered as discrete samples, not as sample summary results. To maintain a TCR sample summary, see Exhibit 5-10.

The diagram illustrates the process of adding a TCR Sample Summary. It begins with the **SDWIS Sampling** Main Window. From the **File** menu, the user selects **Add Sample Summary**. This action opens the **Specify Sample Summary Type** dialog box. In this dialog, the **Abbrev.** is set to **TCR** and the **Rule** is **TOTAL COLIFORM RULE**. The user can click **OK**, **Cancel**, or **Help**. Clicking **OK** leads to the **TCR Sample Summary Maintenance - Add** window. This window contains the following fields and options:

- Compliance Sample**: ☒
- Sample Summary**:
  - Water System**: ND0501057
  - Name**: ALL SEASONS WUA-SYSTEM I
  - Monitoring Period**:
    - Start Date**: 03/01/1999
    - Duration**: Monthly
  - Date Summary Received**: [Empty field]
- Analyte**: 3100
- Number of Routine Negatives**: 11
- Data Quality**: Accepted
- Optional Information**:
  - Lab State ID No.**: [Empty field]
  - Lab Federal ID No.**: [Empty field]
  - Laboratory Name**: [Empty field]
  - WSF State Asgn ID**: [Empty field]
  - WSF Name**: [Empty field]

At the bottom of the window are buttons for **Add New Summary**, **Comments**, **OK**, **Cancel**, and **Help**.

**Exhibit 5-10.** TCR Sample Summary Maintenance

## Add Sample Analysis Summary for Lead and Copper

The PbCu Sample Summary Maintenance window allows entry and maintenance of two sample summaries: one for lead and one for copper. To access this window, select **Add Sample Summary** and specify “PbCu” as the rule. Enter the water system and monitoring period information. You must also enter the number of samples and the 90th percentile level. The units are always in mg/L, and data quality defaults to Accepted. Information about the laboratory is optional. The information entered on this window is used to create Milestone Events when 90th percentile levels exceed the Action Levels for Lead and Copper. Exhibit 5-11 illustrates the Pb/Cu Sample Summary Maintenance window.

The diagram illustrates the process of adding a PbCu sample summary. It begins with the **SDWIS Sampling** Main Window. The **Add Sample Summary** option is selected from the menu. This leads to the **Specify Sample Summary Type** dialog box, where the **Abbrev.** is set to **PbCu** and the **Rule** is **LEAD & COPPER RULE**. From there, the user is directed to the **PbCu Sample Summary Maintenance - Add** window. This window contains the following fields and options:

- Compliance Sample:** ☒
- Sample Summary:**
  - Water System:** ND5010295
  - Name:** AMUNDRUDS CAFE
  - Monitoring Period:** Start Date, Duration, Sample Collection, Begin Date, End Date, Date Summary Received
- Analyte, Number of Samples, 90th percentile level, mg/l, Data Quality, SDWIS/Fed:**

Analyte	Number of Samples	90th percentile level	mg/l	Data Quality	SDWIS/Fed
Pb90				Accepted	
Cu90				Accepted	
- Optional Information:**
  - Lab State ID No.
  - Lab Federal ID No.
  - Laboratory Name
  - WSF State Asgn ID
  - WSF Name
- Buttons:** Add New Summary, Comments, OK, Cancel, Help

**Exhibit 5-11. PbCu Sample Summary Maintenance**



# Chapter 6: Monitoring and Noncompliance Determination

SDC-0002-017-CW-2018A  
April 14, 2000



Monitoring and  
Non-Compliance

## Rule Requirements

The Safe Drinking Water Act (SDWA) and subordinate federal rules require collection and analysis of samples for specific chemical, physical, and microbiological parameters according to prescribed schedules. The purpose of this sampling is to document the quality of water provided to consumers in a public water system.

To ensure purity to the consumer, suppliers of drinking water must monitor their water quality by collecting and analyzing water samples for a specific set of contaminants. The type of analysis performed, the frequency of the sampling, and the location of the sampling point can vary from system to system and analyte to analyte.

Requirements for routine monitoring can vary depending on these primary factors:

- Water system federal type code (i.e., community, transient non-community, or non-transient non-community).
- Connection to another water system.
- Number of people served (i.e., population count, population type, and service connection count).
- Type of water used (i.e., groundwater or surface water).
- Type of treatment applied (i.e., disinfection and filtration).

SDWIS/STATE users and stakeholders determined that the highest priority from a public health standpoint is the Total Coliform Rule (TCR). Automated schedule and noncompliance determination (NCD) functions for TCR were initially developed with SDWIS/STATE Release 5.0.

## Monitoring and Noncompliance Determination Main Window

The *Monitoring and Noncompliance Determination* main menu (Exhibit 6-1) contains the following major options under the **Edit** menu:

**Planning**  
**Scheduling**  
**Noncompliance**  
**Milestones**  
**Violations**

Each of these menu items is discussed in more detail in subsequent sections of this chapter. Like *Inventory*, *Sampling*, and *Enforcement*, *Monitoring and Noncompliance* supports the use of water system groups. Selecting **Detail/Maintain WS Group** allows you to change your default to any available group or government agency.

## Planning

**Edit/Planning** offers four submenu items: **Monitoring Periods**, **Monitoring Periods by Water System**, **Monitoring Requirements**, and **Sample Plans**. Its overall purpose is to help prepare for the successful execution of automated TCR NCD. This topic will be visited infrequently, but it serves a very important role in setting up the TCR NCD environment.

Each water system targeted for TCR NCD must be associated with appropriate monitoring periods. For those states that received SDWIS/STATE populated with data from SDWIS/FED, several monthly and quarterly monitoring periods were included with the initial database, including the necessary associations to run NCD. Likewise, those states that used *Migration to SDWIS/STATE* to populate SDWIS/STATE will have a limited number of future monitoring periods and associations created in the database (using *TCR NCD Setup*). However, to run NCD against all regulated PWSs, the PWSs added using the online application need to be associated with appropriate monitoring periods. See the Monitoring Periods discussion for details on how to make these associations using *TCR NCD Setup*.

### *Monitoring Periods*

In SDWIS/STATE, monitoring periods, that is, periods of time that are referenced over and over by several different entities, are stored in one table. For example, in a given state, the monitoring period January 2000 (1 January - 31 January 2000) may be referenced by 1,000 or more total coliform sample results, by several total coliform violations, and by a few surface water treatment rule violations. Rather than storing this period of time with each of these records, a single record is recorded as a monitoring period and then referenced by these other records.

Monitoring periods are also an essential element of automated TCR NCD. The TCR NCD function knows for which water systems to check compliance by checking which water systems are related to the monitoring period you select and, in turn, which of these water system-monitoring period associations are related to the TCR. This three-way relationship must be created prior to successfully running automated TCR NCD for a given monitoring period. That is to say, several months prior to running TCR NCD for a given month or quarter, you need to do the following:

- Create the new month or quarter as a monitoring period record.
- Associate that monitoring period to all the water systems that are expected to sample for total coliform during that period.
- Associate these water system-monitoring period pairings to the TCR.

Monitoring periods support TCR NCD in another way. These three-way associations between monitoring periods, water systems, and the TCR also control the monitoring period to which a total coliform sample result is assigned. For example, if you try to enter a “for compliance” routine or repeat

total coliform sample for a water system, and that water system is not associated to a monthly or quarterly monitoring period that covers the sample collection date, SDWIS/STATE does not allow you to add the sample.

Sample Summaries also reference monitoring periods that define the period that a Sample Summary covers. In order to add a total coliform Sample Summary for a water system, that water system must be associated to the monitoring period and the TCR. Likewise, in order to add a Lead and Copper (PbCu) Rule Sample Summary or a Surface Water Treatment Rule (SWTR) Sample Summary, the given water system must be associated to the monitoring period and either the PbCu Rule or the SWTR respectively.

### ***Monitoring Period Maintenance***

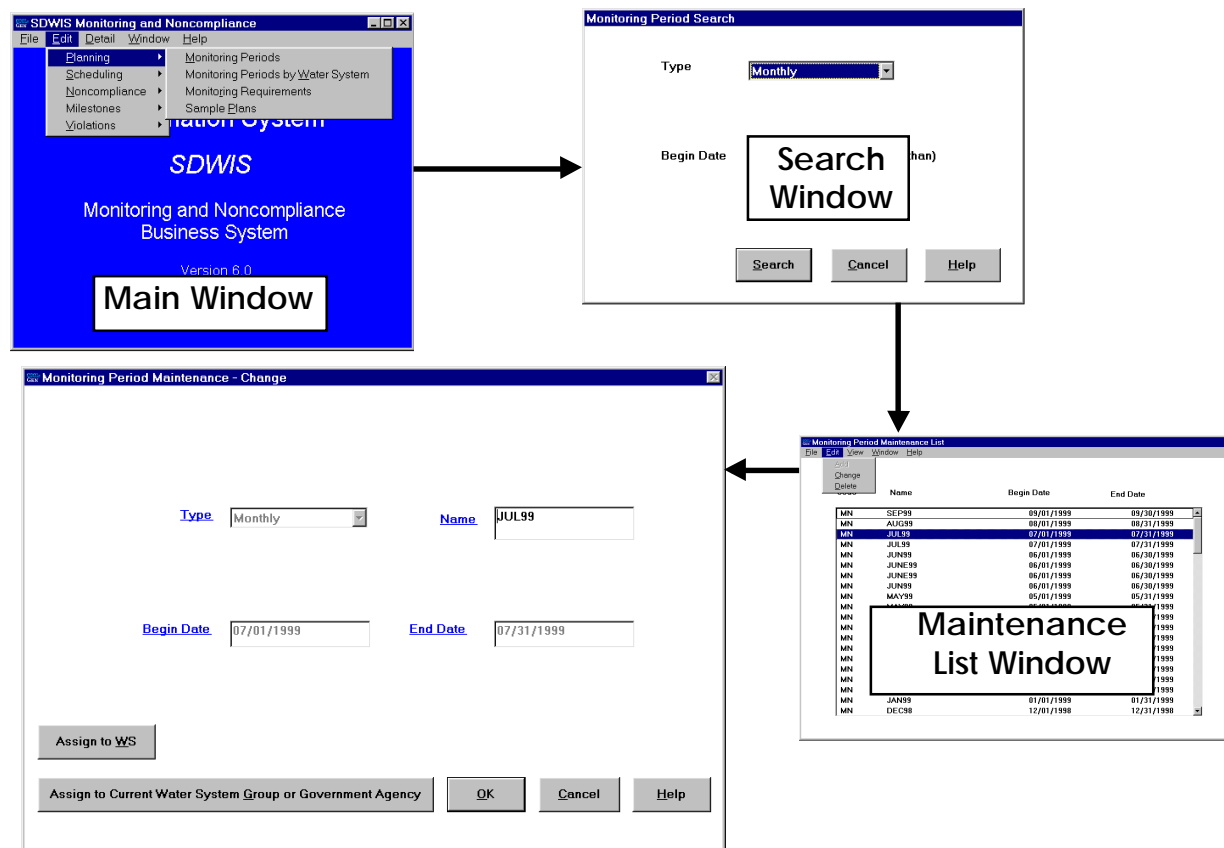
SDWIS/STATE supports the following types of monitoring periods:

Monthly	Every 3 Years	Every 5 Years
Quarterly	Every 4 Years	Every 6 Years
Yearly	Hourly	Every 7 Years
One Time	Daily	Every 8 Years
Every 4 Hours	Weekly	Every 9 Years
Every 6 Months	Every 2 Years	Every 10 Years

To create a new monitoring period or modify an existing one, select the desired type of monitoring period from the Monitoring Period Search window. You may optionally enter a Begin Date to further qualify your search. Clicking on the **Search** button takes you to the Monitoring Period Maintenance List, which shows all monitoring periods that qualify for the search criteria. Double-click on the monitoring period to modify its name (Exhibit 6-1) or choose **Edit/Add** from the menu to create a new monitoring period. Monitoring periods are uniquely identified by a type, start date, and end date. For this reason, these three fields may not be changed after the monitoring period is created. Consider a naming scheme to help you derive information from the name itself, such as 2000-2Q for the second quarterly monitoring period of 2000. For example, 3Y2000 could signify the 3-year period beginning in calendar year 2000. (By putting the year first for monitoring periods that are less than a year in duration, all the monitoring periods for a given year will be together when you sort order by monitoring period name. By putting the type of monitoring period first for those that are one year or greater in duration, all the monitoring periods of a given type will be together when you sort order by name.)

### ***Set Up Monitoring Period Assignments for TCR NCD Using TCR NCD Setup***

The ability to associate a monthly or quarterly TCR monitoring period to many water systems at once by specifying a water system group was the initial way SDWIS/STATE enabled you to create the necessary three-way assignments between water systems, monitoring periods, and the TCR. However, the easiest and most efficient way to create these associations is by using the *TCR NCD Setup* component of *Migration to SDWIS/STATE*. (This component is generally only installed on a SDWIS/

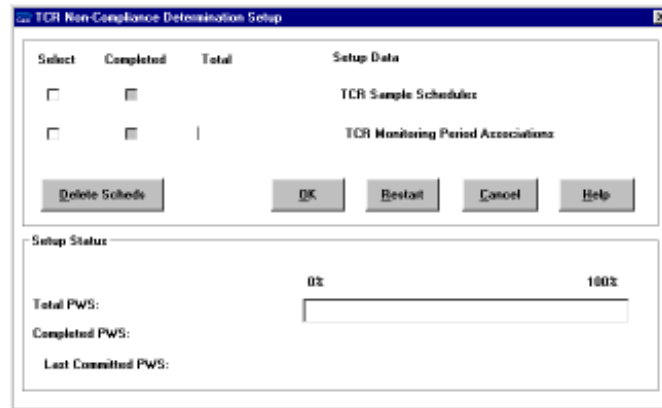


**Exhibit 6-1. Monitoring Period Maintenance Window**

STATE System Administrator’s workstation, so you may need to coordinate with that individual.) *TCR NCD Setup* will set up the necessary associations to enable you to enter total coliform samples and sample summaries. Follow these steps:

- Create your new TCR monthly and/or quarterly monitoring periods using Monitoring Period Maintenance. Consider creating them for 2 years into the future. Always have at least the next two TCR monitoring periods (that is, the next 2 months and/or next 2 quarters) “set up” to use the TCR NCD related components.
- Make sure that all your current active water systems have TCR Sample Schedules in effect.
- Run *TCR NCD Setup*. Select the *TCR Monitoring Period Associations* checkbox. Be sure not to select *TCR Sample Schedules* checkbox (Exhibit 6-2). Running *TCR NCD Setup* will probably take an hour or more, so plan accordingly. The more active public water systems you have, the longer this process will take.

When you add a new water system to your database, you might find it most efficient to use the **Monitoring Periods by Water System** function (discussed in a subsequent section) to link the water system to its appropriate monitoring periods.



**Exhibit 6-2.** TCR Non-Compliance Determination Setup

### ***Set Up Monitoring Periods for PbCu Rule and SWTR Summaries***

As mentioned above, prior to adding a sample summary for the PbCu Rule or the SWTR, you first need to associate the water system to the monitoring period of the summary and then assign this pairing either to the PbCu Rule or the SWTR respectively. This can either be done on a sample summary by sample summary basis (using the Monitoring Periods by Water System function described below) or by using the **Assign to Current Water System Group or Government Agency** button on the Monitoring Period Maintenance window as described below. If you desire to set up several water systems and monitoring periods for PbCu Rule or SWTR Sample Summaries, then:

1. Make the Water System Group or Government Agency you desire current. Select **Detail/Maintain WS Group** from the *Monitoring and Noncompliance Determination* main menu. Then, on the Water System Group Maintenance List, highlight the group or agency you want to make current and then select **Edit/Make Current** from the menu.
2. Create (or maintain) the monitoring period desired.
3. Associate the monitoring period to the water system group or government agency and desired rule as follows: Display the desired monitoring period on the Monitoring Period Maintenance window, then click on the **Assign to Current Water System Group or Government Agency** button (Exhibit 6-3). Next, select the desired rule on the Assign Monitoring Period to WS Group window by highlighting the desired rule and clicking on **OK**. SDWIS/STATE determines the number of water systems that will be associated and displays it on the next screen. Click **Yes** to make the associations and **No** to not create them. This could take a few minutes depending on the size of the water system group. Exhibit 6-4 illustrates how to associate a monitoring period to one water system and desired rule. To associate a monitoring period to an individual water system, display the desired monitoring period on the Monitoring Period Maintenance window, then click on the **Assign**

to **WS** button. Next, select the desired Water System in the Water System Monitoring Period Assignment List and then double-click on the water system to assign a rule. Click on the **Assign a Rule** button on the Rule List, then select a rule from the Assign Rule window.

### Monitoring Periods by Water System

This menu item supports the requirement to manage monitoring period associations one water system at a time. This function is intended to enable you to set up a new water system (or re-activated system) for TCR NCD by associating it to the appropriate monitoring periods (quarterly or monthly) starting with either the current or next monitoring period after the system became active. As mentioned above, this function can also be used to establish needed associations to enter PbCu Rule or SWTR Sample Summaries, especially if you only enter a few of these.

*Select a Monitoring Period in the Monitoring Periods Maintenance List.*

*This button allows you to select a Water System Group or Government Agency*

*Select the Rule you want to apply to the Water System Group or Government Agency for the selected Monitoring Period*

*Verify the facts about the Water System Group or Government Agency*

**Monitoring Period Maintenance - Change**

Type: Monthly Name: AUG 1999

Begin Date: 08/01/1999 End Date: 08/31/1999

Assign to WS

Assign to Current Water System Group or Government Agency

**Assign Monitoring Period to WS Group**

Current WS Group/Current Government Agency: EPA CHAMPAIGN REGIONAL OFFICE

Monitoring Period

Type: Monthly Name: AUG 1999

Begin Date: 08/01/1999 End Date: 08/31/1999

Rule	Name	Rule Authority
BACT	BACTERIOLOGICAL RULE	ENVIRONMENTAL PROTECTION AGENCY
DBP	DISINFECTANT BYPRODUCT RULE	ENVIRONMENTAL PROTECTION AGENCY
ESWT	ENHANCED SWTR	ENVIRONMENTAL PROTECTION AGENCY
FL	FLUORIDE RULE	ENVIRONMENTAL PROTECTION AGENCY
IOC	INORGANIC CHEMICALS	ENVIRONMENTAL PROTECTION AGENCY
PBCL	PBCL MONITORING RULE	ENVIRONMENTAL PROTECTION AGENCY
ORG	ORGANIC CHEMICAL RULE	ENVIRONMENTAL PROTECTION AGENCY
PH1	PHASE I RULE	ENVIRONMENTAL PROTECTION AGENCY
PH2	PHASE II RULE	ENVIRONMENTAL PROTECTION AGENCY
PH5	PHASE V RULE	ENVIRONMENTAL PROTECTION AGENCY
PN	PUBLIC NOTIFICATION RULE	ENVIRONMENTAL PROTECTION AGENCY
RAD	RADIOACTIVE RULE	ENVIRONMENTAL PROTECTION AGENCY
SEC	SECONDARY CONTAMINANT RULE	ENVIRONMENTAL PROTECTION AGENCY
SMR	SPECIAL MONITORING RULE	ENVIRONMENTAL PROTECTION AGENCY
SHH	SHH FATE RUL F	ENVIRONMENTAL PROTECTION AGENCY

**Monitoring Period Verification**

328 Water Systems

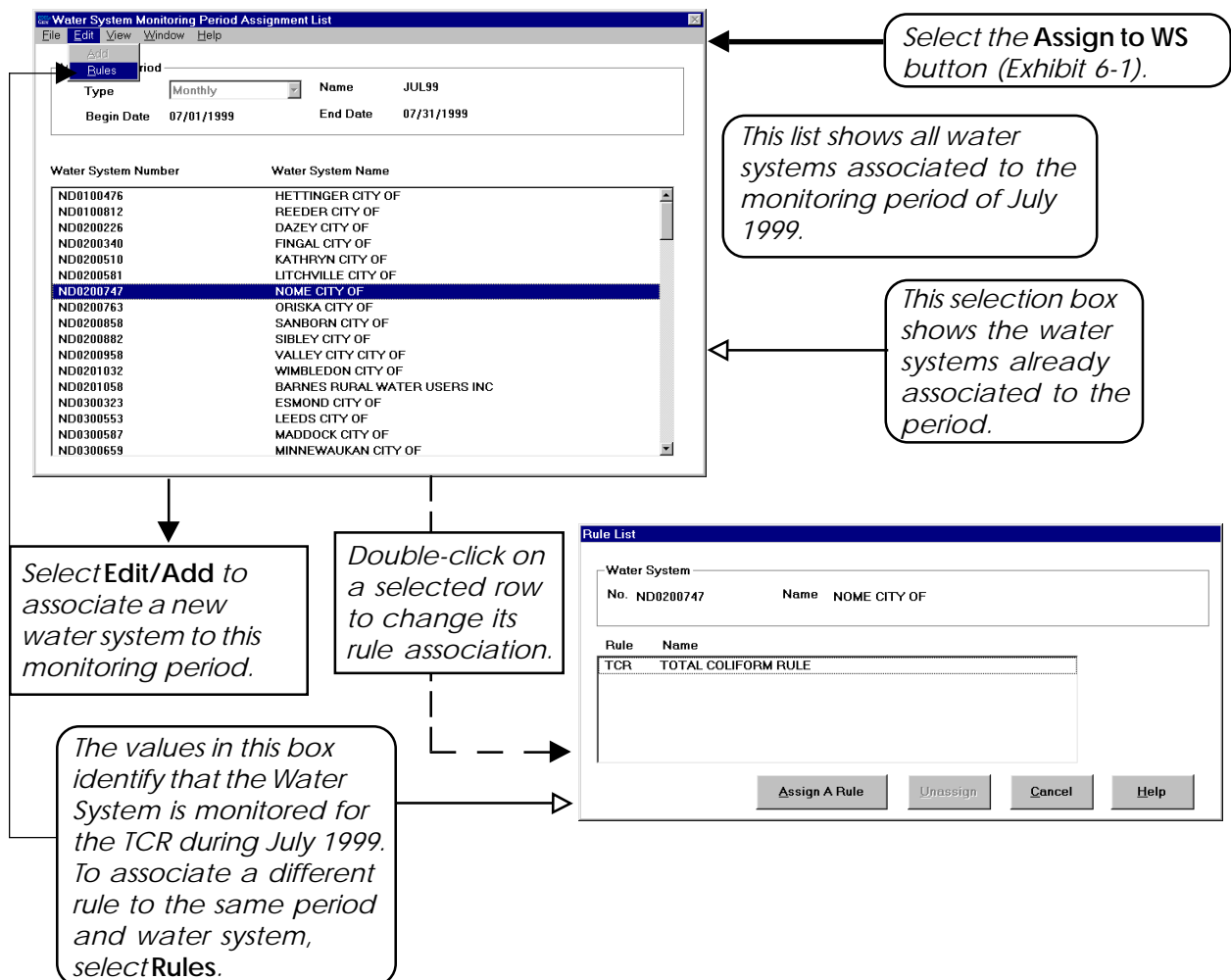
in the Current Water System Group/Government Agency

EPA CHAMPAIGN REGIONAL OFFICE

will be assigned to this Monitoring Period. Do you wish to proceed?

Yes No Cancel

**Exhibit 6-3.** Assigning a Rule to all the Water Systems in a Water System Group/Government Agency

**Exhibit 6-4.** Associating a Rule to a Water System Monitoring Period

When you select **Edit/Planning/Monitoring Periods by Water System**, the standard Water System Search window appears. Once you select the desired water system, the Monitoring Period Assignment by Water System window appears, showing all the monitoring periods currently associated to the water system (Exhibit 6-5). Without selecting a monitoring period, choose **Edit/Assign** to associate the current water system to a different monitoring period (Exhibit 6-6). If you select an existing monitoring period, choose **Edit/Rules** to maintain the associations between the selected monitoring period and rules (Exhibit 6-7). Note: If you use this list to associate a water system-monitoring period to the TCR, be sure not to select the Bacteriological Rule. SDWIS/STATE does not consider the TCR and Bacteriological Rule to be synonymous.

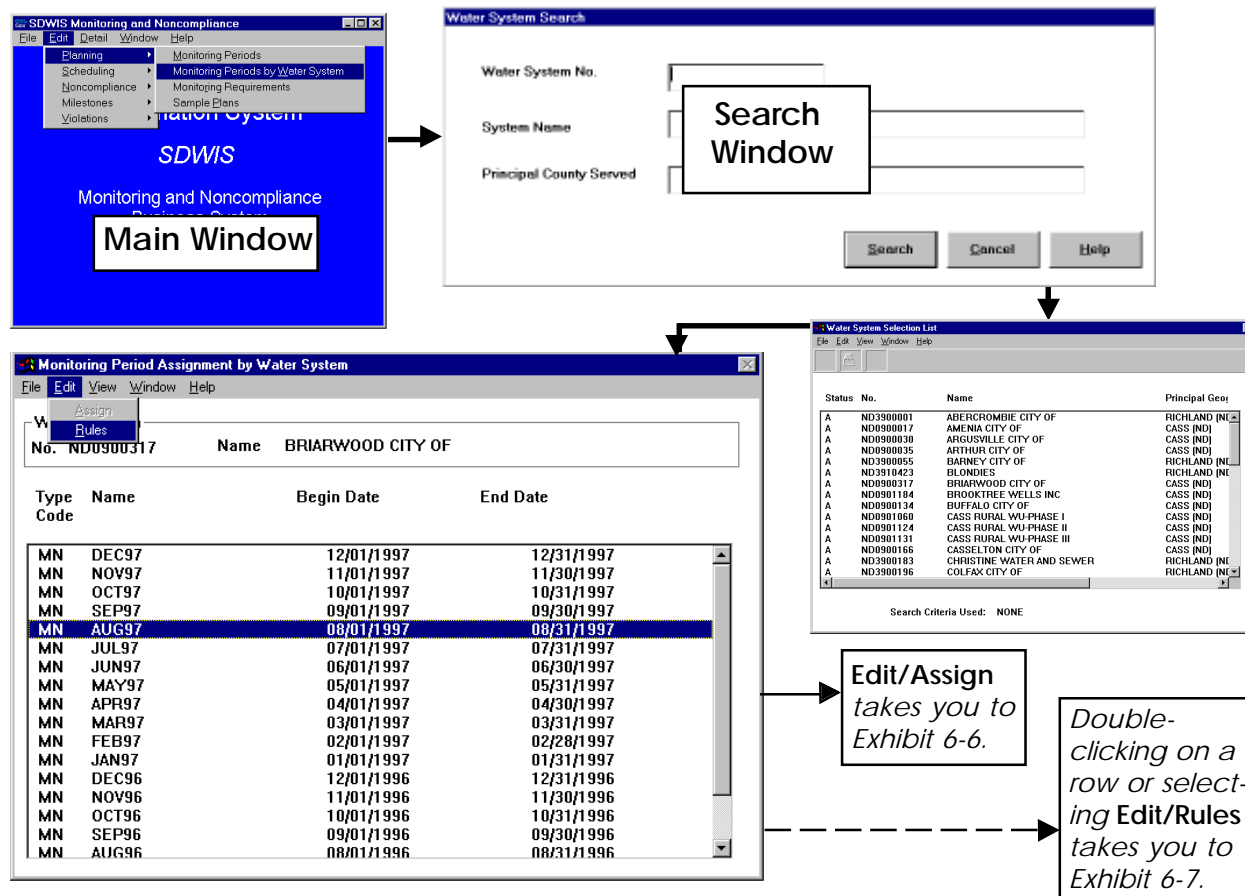


Exhibit 6-5. Monitoring Period Assignment By Water System Process



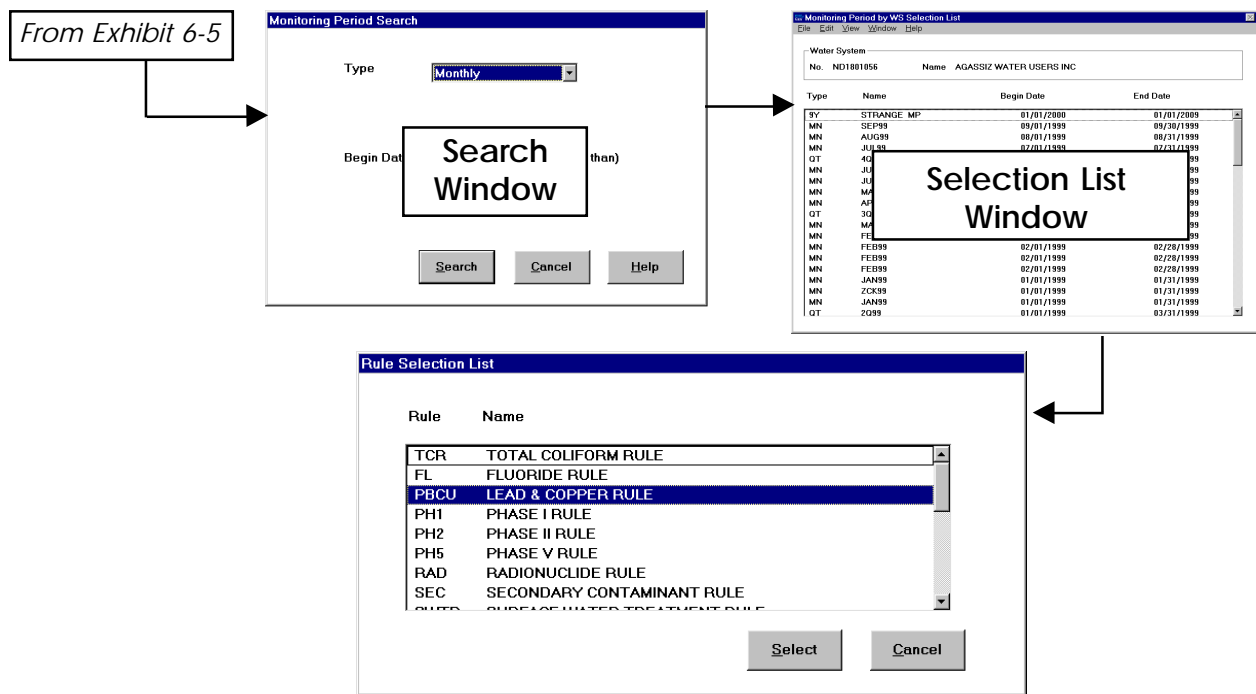


Exhibit 6-6. Rule Selection List

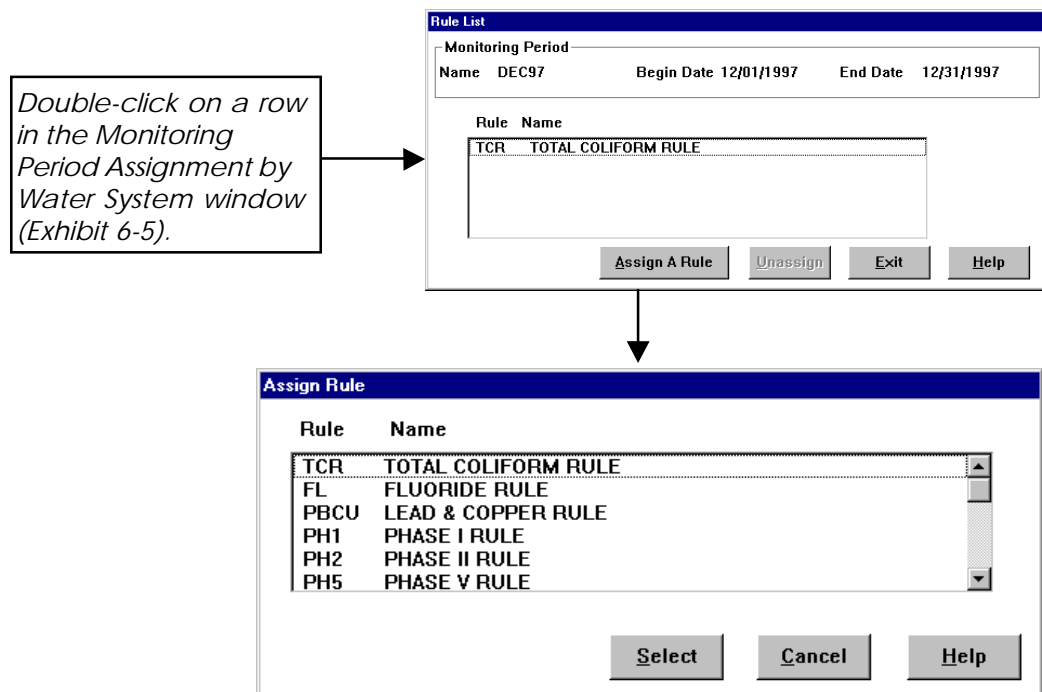


Exhibit 6-7. Assign Rule

## Monitoring Requirements

Selecting this menu item causes the Monitoring Requirement Search window to appear (Exhibit 6-8). You can search for Monitoring Requirements based on an Analyte, Analyte Group, Sample Type, or Sample Periodicity. Clicking the **Search** button causes the Monitoring Requirement Maintenance List to appear with those monitoring requirements that meet the specified search criteria. This window provides the capability to add or delete state-defined monitoring requirements. Federally supplied monitoring requirements (such as those supplied by analyte code 3100) can be viewed but not changed.

Select **Edit/Add** on the Monitoring Requirement Maintenance List to add a state-defined monitoring requirement. The Monitoring Requirement Maintenance window appears. New monitoring requirements must be added explicitly in this window and can no longer be added indirectly as a function of adding a new sampling schedule. Select either an analyte or an analyte group and the frequency (number of samples of a specified sample type per a specified period of time). The monitoring requirement is

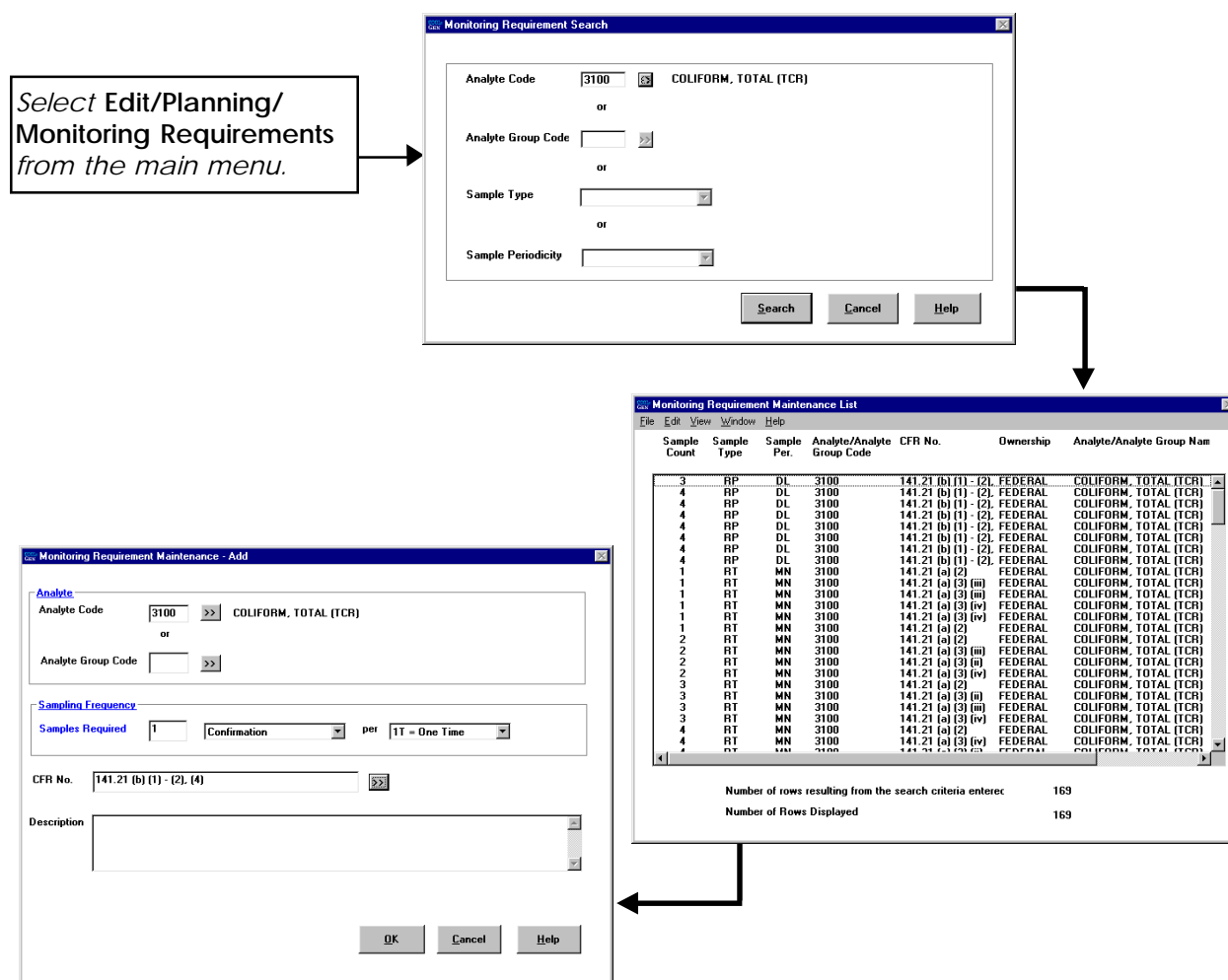


Exhibit 6-8. Monitoring Requirement Maintenance

uniquely identified either by the analyte or analyte group along with the three fields in the Sampling Frequency group box. Select the **Go To** button next to the Analyte Code field to display the Analyte Selection List (Exhibit 6-9) or on the **Go To** button next to the Analyte Group Code field to display the Analyte Group Selection List (Exhibit 6-10). Select the **Go To** button next to the CFR No. field to display the Code of Regulation Selection List (Exhibit 6-11). You cannot add monitoring requirements for analyte code 3100.

Analyte Code	Analyte Name	Type Code	UCM Reportable Start	UCM Reportable End	CAS Registry Number
0100	TURBIDITY	WQ			
0200	SURFACE WATER TREATMENT RULE (S)	RL			
0300	INTERIM ENHANCED SWTR	RL			
0400	DISINFECTION BYPRODUCTS RULE	RL			
0999	CHLORINE	WQ			
1002	ALUMINUM	IOC			7446-70-0
1003	NITROGEN-AMMONIA (AS N)	IOC			7664-41-7
1004	BROMIDE	IOC			
1005	ARSENIC	IOC			7440-38-2
1006	CHLORAMINE RESIDUAL	WQ			10599-90-3
1007	CHLORATE	IOC			
1008	CHLORINE DIOXIDE RESIDUAL	WQ			10049-04-4
1009	CHLORITE	IOC			14998-27-7
1010	BARIUM	IOC			7440-39-3
1011	BROMATE	IOC			
1012	CHLORINE RESIDUAL	WQ			7782-50-5
1013	CHLORINE RESIDUAL, FREE	WQ			
1014	OZONE RESIDUAL	WQ			
1015	CADMIUM	IOC			7440-43-9
1016	CALCIUM	IOC			7440-70-2
1017	CHLORIDE	IOC			16887-00-6
1018	CARBON	IOC			7440-44-0
1019	CALCIUM	WQ			

**Exhibit 6-9.** Analyte Selection List

Analyte Group Code	Analyte Group Name
INOG	INORGANICS
IOC	IOC
JON	JON
NEW	NEW
NN32	NN
SOC	SOC
001	TEST GROUP1
2879	TEST INORGANIC
TEST	TEST23
VOC	VOC

**Exhibit 6-10.** Analyte Group Selection List

Code Of Regulation Selection List	
Regulation Number	Regulation Name
141.11	INORGANIC CHEMICAL MCLS
141.11	LEAD MCL
141.12	TRICHALOMETHANE MCLS
141.13	TURBIDITY MCLS
141.13	TURBIDITY MCLS
141.15	RADIONUCLIDE, GROSS ALPHA MCLS
141.16	RADIONUCLIDE, GROSS BETA MCLS
141.21 (a) (3) (i)	COLIFORM SAMPLING
141.21 (a) (3) (ii)	COLIFORM SAMPLING
141.21 (a) (3) (iii)	COLIFORM SAMPLING
141.21 (a) (3) (iv)	COLIFORM SAMPLING
141.21 (a) (5)	COLIFORM SAMPLING
141.21 (b) (1) - (2), (4)	COLIFORM SAMPLING
141.21 (b) (5)	COLIFORM SAMPLING
141.21 (d) (1) (i)	COLIFORM SAMPLING
141.22	TURBIDITY MONITORING
141.22	TURBIDITY MONITORING
141.23	INORGANIC CHEMICAL MONITORING
141.24	ORGANIC CHEMICAL MONITORING
141.26	RADIONUCLIDE, MONITORING REQUIREMENTS
Number of rows resulting from the search criteria entered 53	
Number of Rows Displayed 53	
<input type="button" value="Sorted By"/> <input type="button" value="Deselect"/> <input type="button" value="Select"/> <input type="button" value="Cancel"/> <input type="button" value="Help"/>	

**Exhibit 6-11.** Code of Regulation Selection List

## Sample Plans

Sampling plans can optionally be created for each water system. This activity is not required for TCR NCD, nor is any sample plan/sample point information used in TCR NCD. Selecting the **Sample Plans** menu item displays the Water System Search window, where any water system can be entered. The application searches the database for the existing sampling plans previously entered for the desired water system (Exhibit 6-12).

Regardless of whether sampling plans currently exist for the desired water system, the Sampling Plan Maintenance List appears. The lower portion of the window shows the current list of sampling plans. You may choose **Edit/Add** to create a new plan or select the desired plan and choose **Edit/Change** to modify a plan.

The Sampling Plan Maintenance window allows you to enter data that describe the plan (Exhibit 6-13). This includes, for example, the rule for which the plan is required, the authorizing agency, and plan effective and approval dates. Most samples must be collected at locations that represent the quality of water in the distribution system. Sample locations or points that are representative of the water throughout the distribution system can be identified in the plan.

The **Sample Point Info** button displays the Sample Point Assignment Maintenance List, which displays a list of water system facilities that were previously identified as sample points belonging to this particular sampling plan. Choose **Edit/Add** to associate another water system facility to the plan, or select the

**SDWIS Monitoring and Noncompliance**

File Edit Detail Window Help

Planning  
Scheduling  
Noncompliance  
Milestones  
Violations

Monitoring Periods  
Monitoring Periods by Water System  
Monitoring Requirements  
Sample Plans

**SDWIS**

Monitoring and Noncompliance Business System

**Main Window**

**Water System Search**

Water System No. ND5311025

System Name

Principal County Served

Search Cancel Help

**Exhibit 6-12. Water System Search Process**

**Sampling Plan Maintenance List**

File Edit Window Help

Water System ND5311025 BUFFALO TRAILS CAMPGROUND

Rule Name Approving Agency

FLUORIDE RULE  
TOTAL COLIFORM  
TOTAL COLIFORM

**Maintenance List Window**

**Sample Plan Maintenance - Add**

Water System ND5311025 BUFFALO TRAILS CAMPGROUND

Rule Abbreviation TCR Rule Name TOTAL COLIFORM RULE

Approving Agency DOUGLAS COUNTY

Approval Date 05/15/1999 Effective Dates Begin End

Samples Planned 0

Remarks

Monitoring Requirement

Samples Required 1 Routine per 1 Month(s)

Sample Point Info OK Cancel Help

**Sample Point Assignment Maintenance List**

File Edit View Window Help

Water System ND5311025 BUFFALO TRAILS CAMPGROUND

Sampling Plan

Approval Date 05/15/1999 Begin Date End Date

No. Samples Required 1 No. Samples Planned 0

Facility Name	Facility Type	Point ID Code	Location	Point Type	Primary
BUFFALO TRAILS CAMPGR	DS	00	GENERATED BY BATCH	DS	N

Once fully populated, this window will show sampling points. Select **Edit/Add** to identify sampling points.

**Exhibit 6-13. Sampling Plan Maintenance**

desired water system facility and choose **Edit/Change** to modify the association. Choosing **Edit/Add** takes you to the Sample Point Selection List. This window shows only those water system facilities that were defined in the application as sample points. Refer to Chapter 4 for details regarding the creation and definition of sampling points.

Selecting a facility on the Sample Point Selection List takes you to the Sampling Plan to Sampling Point Maintenance window (Exhibit 6-14), where you can define this point as a primary point in the plan. Designating a point as primary causes the number of samples planned for collection to be incremented by one.

You can see the incremented No. Samples Planned on the Sample Point Assignment Maintenance List and on the Sampling Plan Maintenance window. In a future release, SDWIS/STATE may offer the capability to cause a water system to be in violation of the sampling plan if samples are collected at points other than those designated as primary points. The application does not currently support this feature.

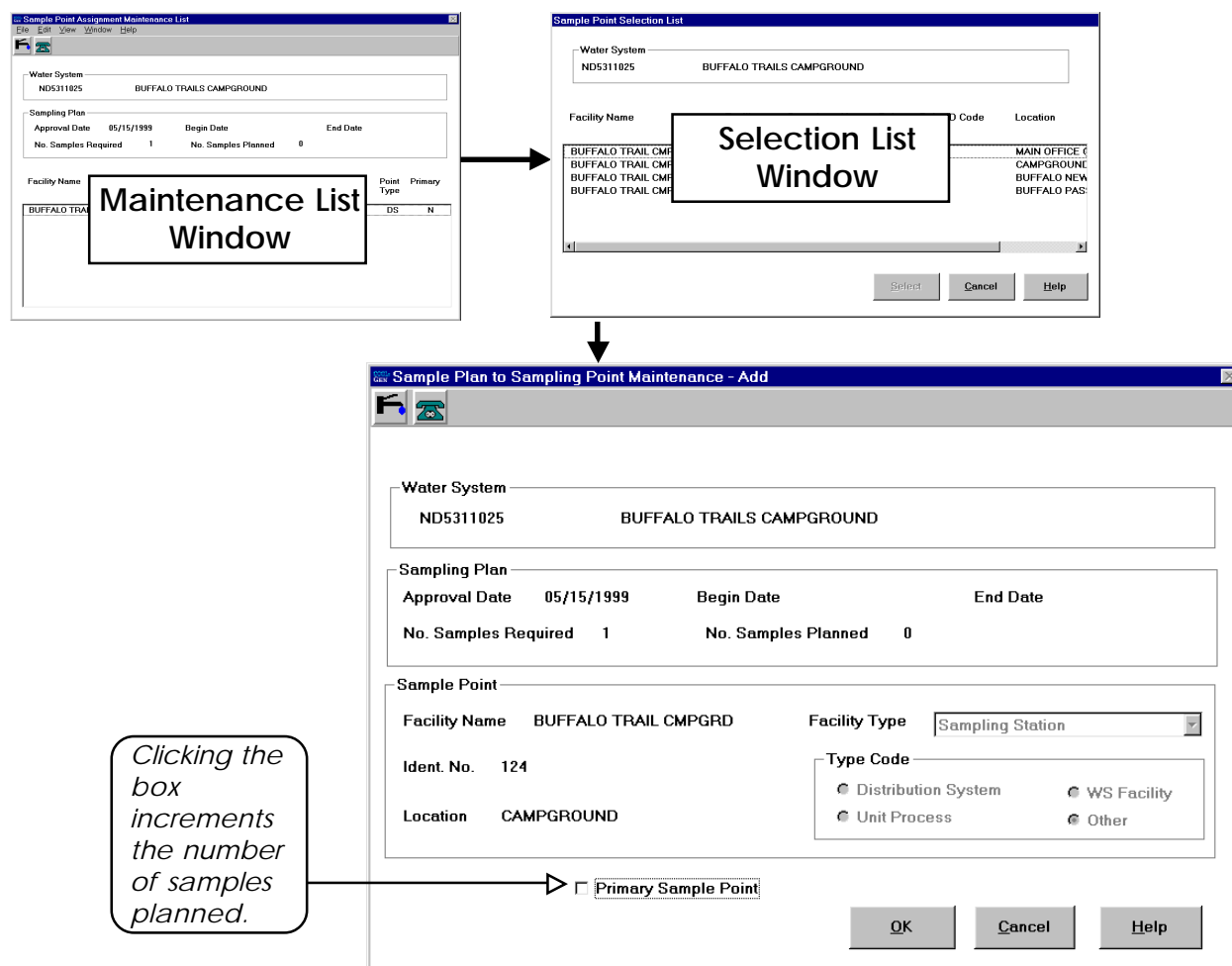


Exhibit 6-14. Sample Point to Sampling Plan Maintenance

## Scheduling

Samples are collected on the basis of a schedule that is determined by rule requirements. SDWIS/STATE enables the creation and maintenance of sample schedules that support all federal drinking water rules. It is in scheduling that the sometimes complex data relationships among *Inventory*, *Sampling*, *Monitoring and Noncompliance Determination*, and *Enforcement* items starts to become apparent. This is particularly true for automated TCR scheduling and NCD. The quality and currency of each water system's inventory data directly affect the accuracy of the TCR schedule that SDWIS/STATE generates. In turn, part of the integrity of an automatically generated TCR potential violation rests on the accuracy of the water system's TCR schedule.

**Edit/Scheduling** offers two submenu items, **Sample Schedules** and **Schedule Change Notification**, which are described in detail below.

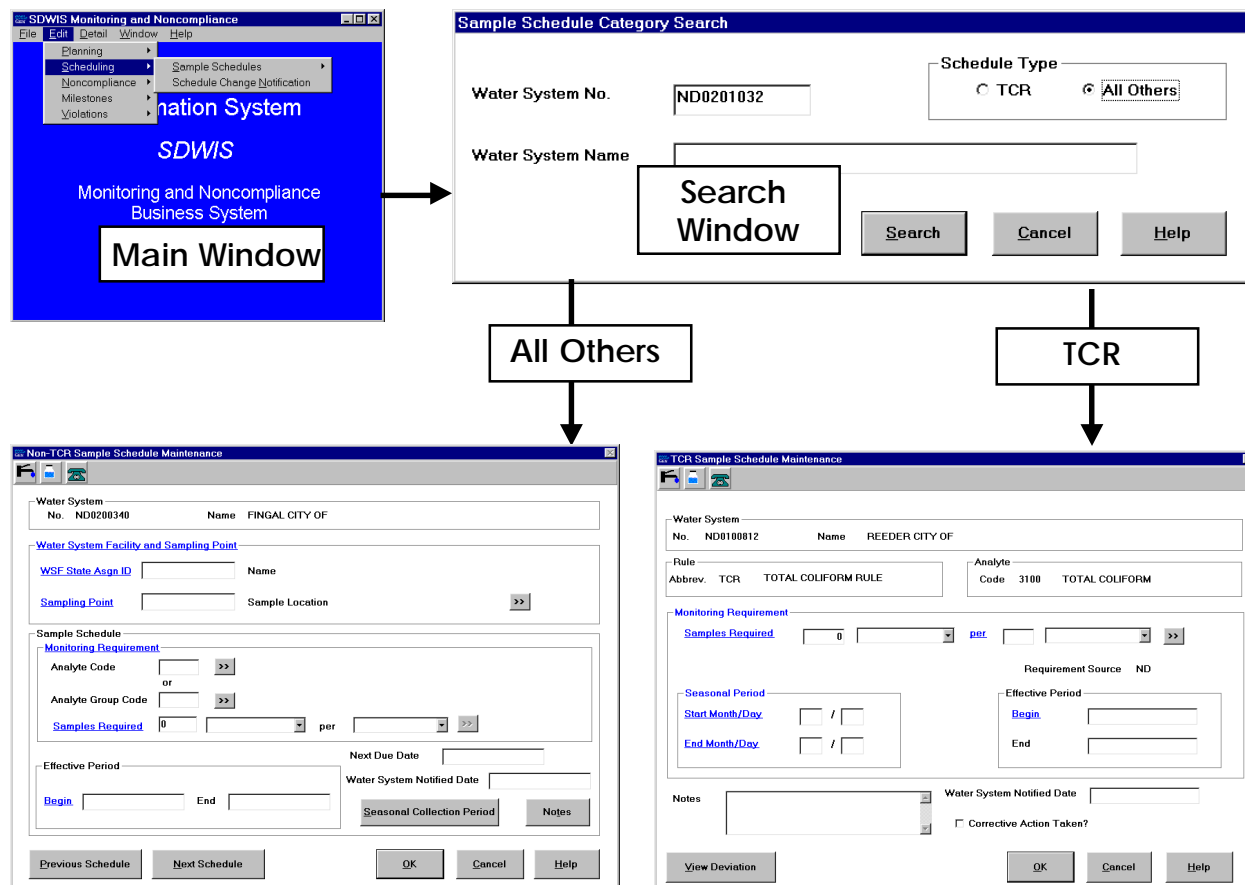
### *Sample Schedules*

Two submenus appear under **Sample Schedules**: **Add** and **Maintain**. Selecting either one brings up the Sample Schedule Category Search window. Sample scheduling has been divided between TCR scheduling and non-TCR scheduling. TCR scheduling defaults to analyte code 3100 and only offers monitoring requirements appropriate to that analyte under the TCR. TCR schedules may only be specified at the water system level. Non-TCR scheduling lets you maintain sampling schedules at the sampling point level for either an analyte or an analyte group, and it offers a user-friendly flow to the Monitoring Requirement Maintenance window so that in the event the monitoring requirement you specify does not exist, you can enter it "on the fly."

**Add** Select **Sample Schedules/Add** to invoke the Sample Schedule Category Search window, where you select either the TCR (add a TCR schedule) or All Others (add a non-TCR schedule) radio button. You must specify a water system number or name. Depending on which category of schedule you select, either the TCR Sample Schedule Maintenance window or Non-TCR Sample Schedule Maintenance window appears (Exhibit 6-15). The TCR Sample Schedule Maintenance window exclusively processes schedules for total coliform rule/analyte code 3100. The Non-TCR Sample Schedule Maintenance window processes all schedules except for TCR/analyte code 3100.

On the Non-TCR Sample Schedule Maintenance window, selecting the **Go To** button next to the Sampling Point field displays the Sampling Point Selection List (Exhibit 6-16); selecting the **Go To** button next to the Analyte Code field brings up the Analyte Selection List; and selecting the **Go To** button next to the Analyte Group Code field brings up the Analyte Group Selection List (Exhibit 6-17). You must supply data in the three Samples Required fields. Selecting the **Go To** button next to this field displays the Monitoring Requirement Maintenance List, where you can select or add a monitoring requirement

(Exhibit 6-18). Selecting the **Seasonal Collection Period** button displays the Seasonal Collection period window, which contains four additional entry fields for the sample schedule (Start Month, Start Day, End Month, and End Day).



**Exhibit 6-15.** Maintaining and Adding Sample Schedules



From the Non-TCR Sample Schedule Maintenance window, choose the Water System Facility and Sampling Point fields **Go To** buttons.

Type	Sampling Point	Location	Facility ID No.	Facility Name
DS	01	WEST END OF PRESSURE	101	PUMPHOUSE
DS	02	ALFRED GRUMAN	950	FINGAL CITY OF
DS	03	NORMAN ULRICH	950	FINGAL CITY OF
DS	04	FINGAL CAFE	950	FINGAL CITY OF
DS	05	MESSIAH LUTHERN CHUR	950	FINGAL CITY OF
DS	06	HERMAN NORTH	950	FINGAL CITY OF
DS	07	GORDON ERTZEL JR	950	FINGAL CITY OF
DS	08	GENERATED BY BATCH	950	FINGAL CITY OF
DS	950	GENERATED BY BATCH	950	FINGAL CITY OF

Number of Sampling Points for this water system: 9  
Number of Sampling Points Displayed: 9

**Exhibit 6-16.** Sampling Point Selection List

From the Non-TCR Sample Schedule Maintenance window, choose the Analyte Code field **Go To** button.

Analyte Code	Analyte Name	Type Code	UCM Reportable Start	UCM Reportable End	CAS Registry Number
0100	TURBIDITY	WQ			
0200	SURFACE WATER TREATMENT RULE (S)	RL			
0300	INTERIM ENHANCED SWTR	RL			
0400	DISINFECTION BYPRODUCTS RULE	RL			
0500	CHLORINE	WQ			
1***	ALL NPDWR INORGANIC CONTAMINANT	GC			
1002	ALUMINUM	IOC			7446-70-0
1003	NITROGEN AMMONIA (AS N)	IOC			7664-41-7
1004	BROMIDE	IOC			
1005	ARSENIC	IOC			7440-38-2
1006	CHLORAMINE RESIDUAL	WQ			10599-90-3
1007	CHLORATE	IOC			
1008	CHLORINE DIOXIDE RESIDUAL	WQ			10049-04-4
1009	CHLORITE	IOC			14998-27-7
1010	BARIUM	IOC			7440-39-3
1011	BROMATE	IOC			
1012	CHLORINE RESIDUAL	WQ			7782-50-5
1013	CHLORINE RESIDUAL, FREE	WQ			
1014	OZONE RESIDUAL	WQ			
1015	CADMIUM	IOC			7440-43-9
1016	CALCIUM	IOC			7440-70-2
1017	CHLORIDE	IOC			16887-00-6
1018	CARBON	IOC			7440-44-0

Search Sorted By Deselect Select Cancel Help

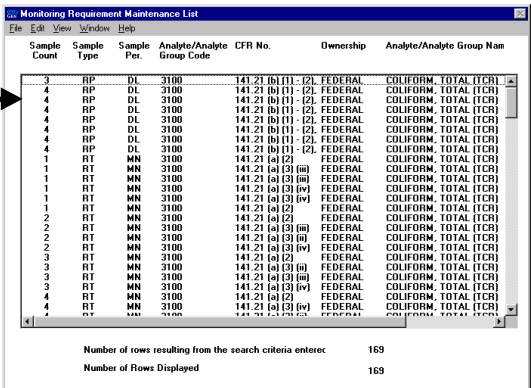
From the Non-TCR Sample Schedule Maintenance window, choose the Analyte Group Code field **Go To** button.

Analyte Group Code	Analyte Group Name
INOG	INORGANICS
IOC	IOC
JON	JON
NEW	NEW
NN32	NN
SOC	SOC
001	TEST GROUP1
2879	TEST INORGANIC
TEST	TEST23
VOC	VOC

Display All Select Cancel Help

**Exhibit 6-17.** Analyte and Analyte Group Selection Lists

From both Sample Schedule Maintenance windows, choose the Samples Required field **Go To** button.



**Exhibit 6-18.** Monitoring Requirement Maintenance List

On the Non-TCR Sample Schedule Maintenance window, if you select an analyte group to associate to the schedule, you only create one schedule that is associated to the monitoring requirement which in turn is associated to the selected analyte group. (Schedules associated to an analyte group function differently from violations that are associated to an analyte group.)

**Overlap Rules for Non-TCR Schedules** For Non-TCR sample schedules, overlapping edit checks ensure that one routine (type RT) schedule may not overlap another RT schedule for the same Water System, Water System Facility, Sampling Point, Analyte/Analyte Group, and effective period. For example, a monitoring schedule for Analyte 2047 (Aldicarb) to be taken for Water System XX3334444, Water System Facility Well-01, Sampling Point 0001 with Sampling Requirement 1 RT per YR, starting 01/01/1997 and open Effective Period End date already exists. The software should not allow the entry of an overlapping monitoring schedule for Analyte 2047 (Aldicarb) to be taken for Water System XX3334444, Water System Facility Well-01, Sampling Point 0001 with Sampling Requirement 1 RT per QT, starting 01/01/1999 and open Effective Period End date.

**Overlap Rules for TCR Schedules** Overlapping edit checks will ensure that one routine (type “RT”) or temporary routine (type “TR”) schedule may not overlap another RT/TR schedule for the same Water System and Analyte 3100, effective period, and seasonal operating period. For example, if a sample schedule for total coliform (Analyte 3100) to be taken for Water System XX3334444, with Sampling Requirement 1 RT per QT, with seasonal collection of 1/1 to 12/31, starting 1/1/1998 and an open Effective Period End date already exists, the software should not allow the entry of an overlapping sample schedule for total coliform (Analyte 3100) to be taken for Water System XX3334444, with Sampling Requirement 1 RT per MN, with a seasonal

collection period of 5/1 to 9/30, starting 1/1/1999 and open Effective Period End date since both the effective period and the seasonal periods overlap.

However, this overlap check would allow you to enter two routine sample schedules whose effective periods overlap so long as the seasonal periods do not. For instance, assume you have a ski resort that is open all year long and the population served from November through March is, on average, 1,200 whereas the population served the rest of the year is under 1,000, and the system uses groundwater. You could create two routine sample schedules for this system that are in effect at the same time, one calling for two routine total coliform samples per month from November 1 through March 31 and the other calling for one routine total coliform sample from April 1 through October 31. (In this case, you may actually want to enter a seasonal end date of September 30 for the quarterly monitoring; otherwise, the TCR NCD function will expect to find a routine sample collected in October to satisfy the fourth quarter and will not consider the routines collected in November and December because these will be associated to monthly monitoring periods and not the fourth quarter monitoring period.)

*TCR Repeat  
Schedules*

When you add a new repeat TCR Schedule, notice the **Originating Positive Result** button, as shown in Exhibit 6-19. This button invokes the Originating Positive Sample Result Selection List where you can select the positive TCR result that triggered the need for the repeat schedule you are creating. If you elect not to associate a positive TCR result to your repeat schedule, you receive an advisory telling you that SDWIS/STATE will not be able to determine monitoring and reporting compliance for the repeat sample schedule.

*Click on the Originating Positive Result button to flow to the Originating Positive Sample Result Selection List.*

**TCR Sample Schedule Maintenance - Add**

Water System  
No. ND2000077 Name BINFORD CITY OF

Rule  
Abbrev. TCR TOTAL COLIFORM RULE Analyte  
Code 3100 TOTAL COLIFORM

Monitoring Requirement  
Samples Required  
3 Repeat per 1 DL = Daily Requirement Source ND

Seasonal Period  
Start Month/Day End Month/Day

Effective Period  
Begin 04/15/2000 End 04/30/2000

Notes Water System Notified Date 04/04/2000  
☐ Corrective Action Taken

View Deviation **Originating Positive Result** OK Cancel Help

**Originating Positive Sample Result Selection List**

Water System  
PWSID ND2000077 Name BINFORD CITY OF

Collection Date	Lab Sample No.	Sample Type	P/A	Sampling Point	Sampling Point Location	State Sample No.
01/16/1996	96-56936	RT	P	03	ORG TWNSIT BLK3LOT3	81996-56936
12/19/1995	95-56483	RP	P	04	ORG TWNSIT BLK17LOT1	81995-56483
12/05/1995	95-56095	RT	P	04	ORG TWNSIT BLK17LOT1	81995-56095
05/23/1995	95-5483	RP	P	02	PUBLIC SCHOOL	81995-5483
05/09/1995	95-5131	RT	P	02	PUBLIC SCHOOL	81995-5131
10/24/1994	94-52552	RP	P	05	HAGERS ADDITION	81994-52552
10/17/1994	94-525326	RT	P	05	HAGERS ADDITION	81994-525326

Select Cancel Help

**Exhibit 6-19.** Adding a Repeat TCR Schedule

## Maintain

Selecting **Sample Schedules/Maintain** also invokes the Sample Schedule Category Search dialog box, where you select either TCR or All Others and specify a water system number or name. Depending on which category of schedule you selected, you will flow to either the TCR Sample Schedule Maintenance List or Non-TCR Sample Schedule Maintenance List (Exhibit 6-20). Both lists display the selected water system's current and future TCR or non-TCR schedules. SDWIS/STATE defines current and future in this way:

*Current* shows all schedules for the water system whose Effective Begin Date is on/ before today and whose Effective End Date is (null or on/after today).

*Future* shows all schedules for the water system whose Effective Begin Date is after today.

If you picked All Others, select a schedule to maintain from the top of your Non-TCR Sample Schedule Maintenance list, and double-click to maintain it on the Non-TCR Sample Schedule Maintenance window.

Two buttons become available: **Previous Schedule** and **Next Schedule**. Make any necessary changes to the current schedule, then press **Next Schedule** to display the next schedule in the Non-TCR Sample Schedule Maintenance List. You can cycle through each schedule in the list, forward and backward, by pressing either **Next Schedule** or **Previous Schedule**. The **View** menu item on the Non-TCR Sample Schedule Maintenance List lets you show all schedules for the water system or return to the Search dialog box. It offers the standard Sort By and Filter By functions.

If you picked TCR, you may be viewing a schedule that was automatically generated either as a result of the *TCR NCD Setup* component of *Migration to SDWIS/STATE* or as a result of an inventory change (such as a change in population) that triggered a change to the schedule. (See the SDWIS/STATE System Administration Guide, Chapter 5, step 3 for more details on *TCR NCD Setup*.) Remember that when you create more than one annual operating period for a water system, or when you change the water system's inventory characteristics such that the monitoring requirement changes from quarterly to monthly (or monthly to quarterly), always verify that SDWIS/STATE properly determined the TCR schedule. Similarly, if a water system has a positive TCR sample when a Deviation or Temporary Routine schedule is in effect, verify the accuracy of the modifications that SDWIS/STATE may make to the TCR schedule as a result of validating the positive sample.

WSF State Asgn ID	Water Type	Sampling Point	Analyte/Analyte Group Code	Sample Count	Sample Type	Sample Per.	Begin Date	End Date
950	950	0200	5	CO	1T	09/07/1999		
950	02	0100	10	CO	1T	09/08/1999		

Number of rows resulting from the search criteria entered 2  
Number of rows displayed 2

**Exhibit 6-20.** Non-TCR Schedule Maintenance List

## Schedule Change Notification

When a monitoring schedule changes, the water system should be notified of the change in writing. MS Word is integrated with SDWIS/STATE to generate notification letters automatically. Selecting Schedule Change Notification brings up the Schedule Change Notification list (Exhibit 6-21). The Schedule Change Notification window lists up to 1,000 water systems whose schedule notification dates are blank, indicating that the schedule changed but the water system is not aware of the change. Schedule changes can occur because of new requirements imposed by the NCD software or because of a change in one or more of the affecting water system attributes (population served, federal type code, etc.).

Select one or more water systems for which you would like to send a letter, notifying them of their schedule revision. Choose **Edit/Notify WS**, and the Notification Date dialog box appears. The Notification Date is the date the selected water system(s) will be notified of the schedule change; it defaults to today's date. Make sure you enter a date far enough ahead to allow for delivery of the letter or other time considerations. (If the 24-hour repeat sampling requirement will be invoked with the

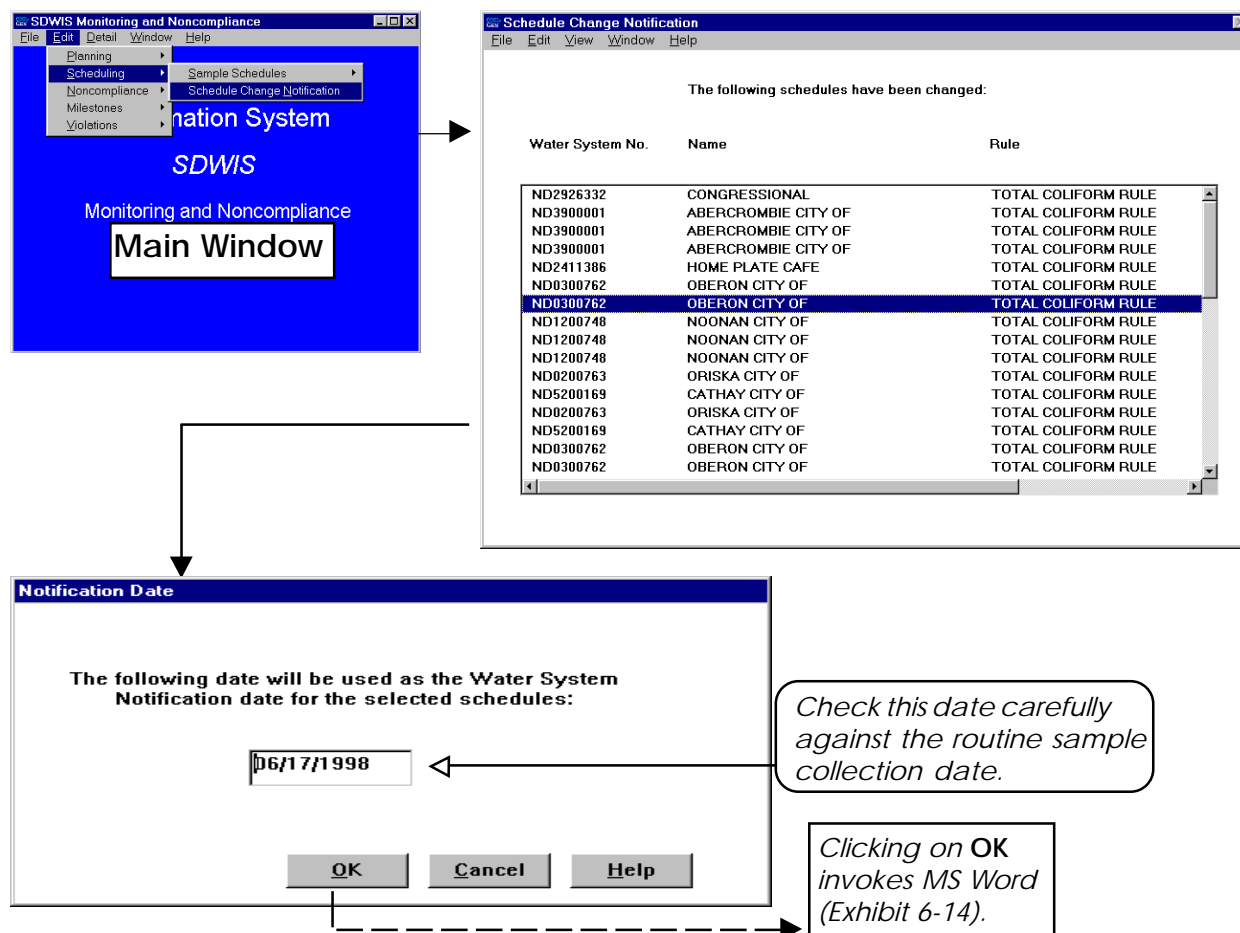


Exhibit 6-21. Schedule Change Notification List

schedule change, to give the water system time to receive the schedule change notification, begin repeat sampling, and avoid violations.) Click on **OK** to send each selected water system and pertinent data to an MS Word merge document.

Refer to the MS Word documentation for more details regarding the use of the merge documents feature. The application is installed on your system with a schedule notification letter template, which contains a formatted presentation of all the data fields sent (Exhibit 6-22). You may want to customize a letter to satisfy local correspondence requirements. You can set the document to print on your letterhead or include your state logo. The MS Word files are located on your local hard drive at C:\SDWIS\DOCS\TEMPLATE.

When MS Word is first invoked, the MS Word logo banner appears, followed by a new document window, and then the merged data. The application reappears on top of the MS Word document. At this point, click your mouse on the underlying MS Word document to put SDWIS/STATE in the background. You can then proceed to manage the documents. When you are done, save the new letters with different document names using the **File/Save As** command and exit MS Word normally to return to the application. Do not save changes to the original MS Word templates. Schedule notification letters may be processed in groups of up to 100 at a time.

Microsoft Word - SCNOTBOD.DOC

File Edit View Insert Format Tools Table Window Help

[KW1]New-Notified-Date: June 14, 1996.....¶

Water-System → Number: → IA2843706... → Name: → → 'R' PLACE.....¶

Rule → Name: → → TOTAL-COLIFORM-RULE..... → Abbreviation: → TCR.¶

This-Water-System's → Begin-Date: → May 17, 1996..... → Notified-Date: → ¶

Legal-Entity → Type-Code: → ¶

Name: → → R PLACE..... → Alias-Name: → ¶

Address-Line 1: → MAIN STREET..... → Address-Line 2: → ¶

Address-City: → MASONVILLE..... → Address-State: → IA-Address-ZIP: 50654.....¶

County-FIPS: → → State-FIPS: → 19¶

→ Phone-Number: → ¶

→ EID: → → ¶

New-Schedule¶

→ Begin-Month: → January.....¶

→ Begin-Day: → 1¶

→ End-Month: → December.....¶

→ End-Day: → 31¶

→ Sample-Type: → Routine.....¶

→ Sample-Count: → 5¶

→ Samp-Unit-Cnt: → 1-¶

→ Sample-Unit: → Monthly.....¶

*Note: This schedule notification letter template was edited for this document.*

**Exhibit 6-22.** MS Word 6.0 Schedule Notification Letter Template

## Noncompliance

**Edit/Noncompliance** offers three submenu items: **Positive Sample Result Validation List**, **Monitoring Period Transfer**, and **Noncompliance Determination**. These three functions only deal with noncompliance for the Total Coliform Rule (TCR). In summary:

- The **Positive Sample Result Validation List** is used to validate that total coliform positive results are indeed valid and should be considered by NCD. Positive routine and repeat total coliform results must be validated or rejected using this list in order for NCD to accurately determine violations.
- If a total coliform sample is collected early or late, and the primacy agency wants to count that sample for the later or earlier period respectively, then the **Monitoring Period Transfer** would be used to accomplish this. NCD counts a result as satisfying the monitoring requirements for a given period if that result is related to that period, even if the sample collection date is outside of the period.
- **Noncompliance Determination** is the function that determines TCR violations for a monitoring period and group of water systems selected by the user. This function is used to make preliminary determinations and final determinations. Preliminary determinations of violations are written to an MS Access database for review. Final determination creates potential violations in the SDWIS/STATE database.

Each of the functions above is described in more detail in the three following sections.

### *Positive Sample Result Validation List*

Positive TCR sample results can be reviewed and validated on the Positive Sample Result Validation List. Prior to selecting this submenu item, be sure that the Water System Group or Government Agency you want is current by selecting **Detail/Display User ID**. To make another group or agency current, select **Detail/Maintain WS Group**. The agency or water system group that is current will limit the list of positive TCR sample results to those for water systems in the group or regulated by the agency.

After making the group or agency current, select **Edit/Noncompliance/Positive Sample Validation List**. Doing so takes you to the Positive Sample Analytical Result Work List Search window, which defaults to the value TCR (Exhibit 6-23).



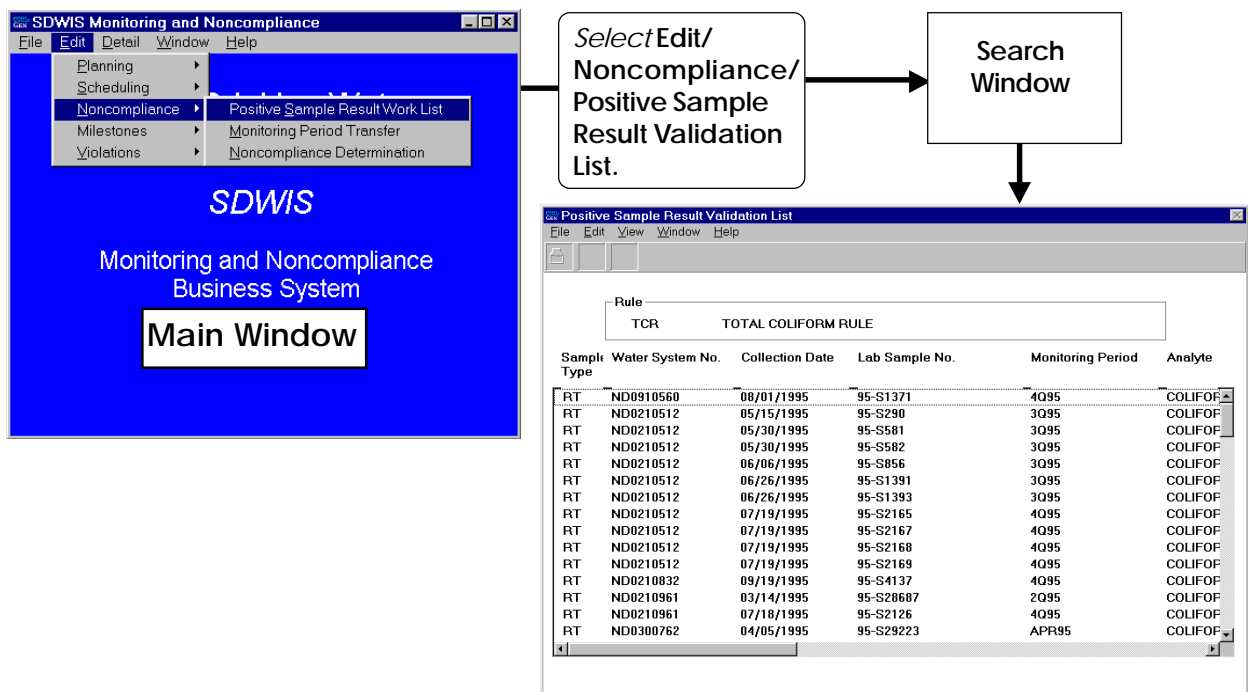
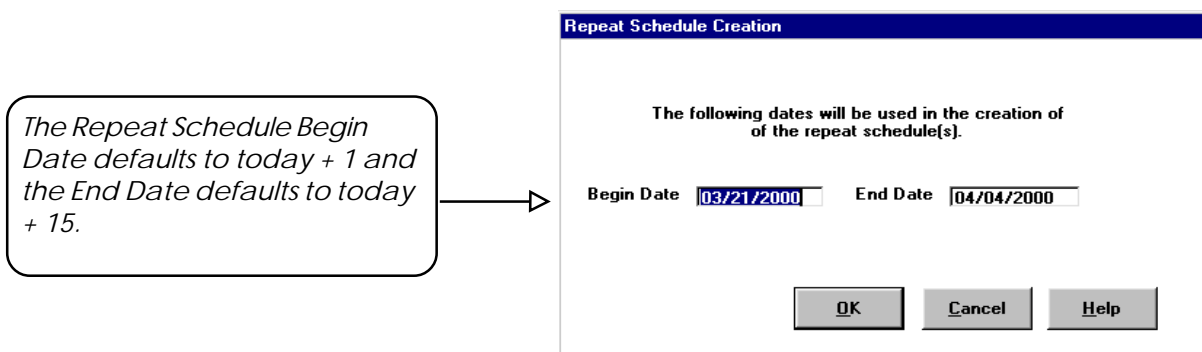


Exhibit 6-23. Positive Sample Analytical Result Validation Process

Only positive not-yet-validated results for water systems within the current water system group or that fall under the current government agency's jurisdiction are displayed on the Positive Sample Result Validation List. Select one or more sample results and choose **Edit/Validate** or **Edit/Reject**. **Edit/Validate** displays the Repeat Schedule Creation dialog box (Exhibit 6-24), which asks you to supply the begin and end dates to be used when creating repeat sample schedules for the selected positive results. These dates default to the current date plus one day for the begin date and the current date plus 15 days for the end date. Because SDWIS/STATE uses these dates to create repeat sample schedules for all the highlighted results, it is usually best to only select multiple results if they have the same sample collection date.

Validating a positive routine TCR sample result triggers the following changes in your SDWIS/STATE database:

- Changes the data quality for the result from Accepted to Validated.
- Creates a TCR repeat sample schedule that begins and ends on the dates supplied by the user and that is associated to the positive result being validated.



**Exhibit 6-24.** Repeat Schedule Creation

- Closes the water system's current TCR sample schedule, using the last day of the current monitoring period as the effective end date. (If you validated a previous positive routine result for the same water system and monitoring period, the current TCR sample schedule would already be closed.)
- Creates a temporary routine sample schedule effective from the first day of the month following the collection date of the sample to the last day of the same month.
- Creates a regular routine TCR sample schedule that will return the system to its normal TCR monitoring requirement after the temporary routine sample schedule.

*If the positive sample occurs in the last month of the water system's annual operating period, be sure to check the sample schedules that are created.*

Validating a positive **repeat** TCR sample result triggers the following changes.

- Changes the data quality for the result from Accepted to Validated.
- If either a repeat or a routine sample is positive for either *E. coli* or fecal coliform, it creates a potential acute TCR MCL violation (violation type 21) for the water system, linking the positive sample results that triggered the violation to it. (If a potential or valid TCR MCL violation already exists for the water system and monitoring period, a second one is not created.)

Validating a repeat positive result does not generate a repeat schedule for the water system. Therefore, in the situation where a water system should collect repeats for a positive repeat sample result, you need to create the repeat TCR schedule using online TCR Sample Schedule Maintenance (Exhibit 6-19).

Note that potential TCR acute MCL violations are determined by evaluating the results of individual sample results; that is, SDWIS/STATE does not consider any information entered in a sample summary record when determining MCL violations. Therefore, if you typically report sample summaries for a water system, and that water system has an MCL violation, you have the following two options:

- Enter all sample results for the month individually and let SDWIS/STATE automatically determine the MCL violation.
- Enter all sample results as a sample summary result for the water system and then manually create the violation using online Violation Maintenance.

**Edit/Reject** displays the Sample Result Rejection Reason window (Exhibit 6-25) where you must supply a rejection reason for each rejected sample. Rejected (and therefore, invalidated) samples are not counted for compliance during automated TCR NCD processing.

Sample Result Rejection Reason

Water System

ND3411308

ADM CORN PROCESSING

Sample Analytical Result

Extraction Date      Extraction Time

Data Quality      Rejected

Data Quality Reason     

Data Quality Text     

OK      Cancel      Help

**Exhibit 6-25.** Sample Result Rejection Reason

### *Monitoring Period Transfer*

When TCR sample results enter SDWIS/STATE, the application calculates the appropriate monitoring period based upon the sample's collection date and the periodicity (either monthly or quarterly) of the TCR schedule active at the time of sample collection. If a sample was collected on the first day of a month (or another day close to the beginning of the month) and you prefer that the sample result be counted during the previous monitoring period month, you may transfer it from the calculated period to the desired monitoring period. Choosing **Edit/Noncompliance/Monitoring Period Transfer** displays the Monitoring Period Transfer Search window (Exhibit 6-26). Here you must supply filtering criteria such as water system number, rule, and monitoring period name. These criteria become the "transfer from" criteria. Once all are entered correctly, the application searches for all results that are associated to the criteria.

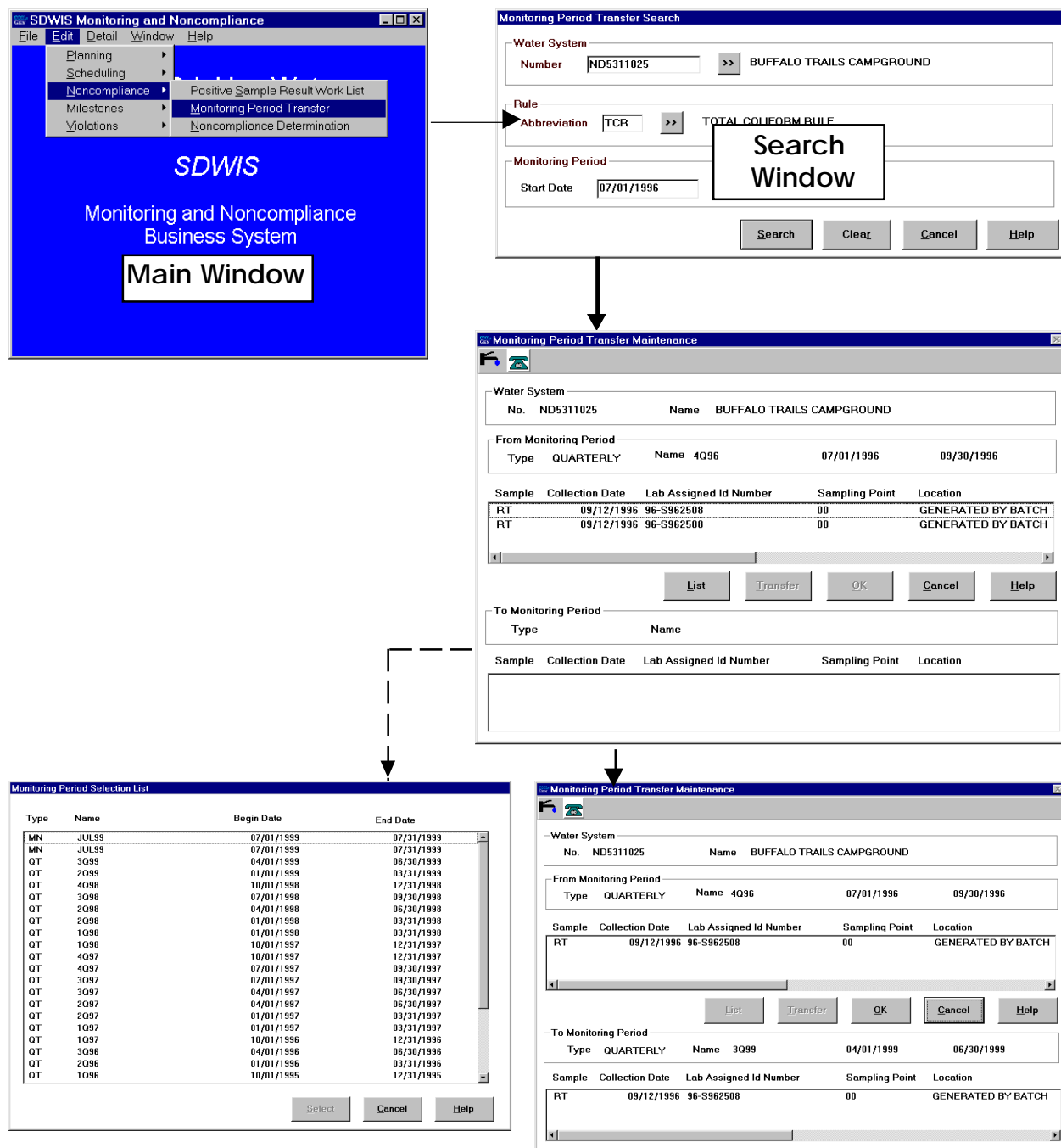


Exhibit 6-26. Monitoring Period Transfer Search Process

If results are found, the Monitoring Period Transfer Maintenance window appears. Here you can see all the samples associated with the “transfer from” period displayed in the top portion of the window, while the bottom portion displays the “transfer to” period.

Click on the **List** button to display the Monitoring Period Selection List, which displays all monitoring periods associated with the water system. Only those monitoring periods previously associated with the water system appear on this list. Select the desired “transfer to” monitoring period. This data then appears in the lower portion of the Monitoring Period Transfer Maintenance window. Select one or more results from the “transfer to” section, then click on the **Transfer** button. The selected result will move from the top portion (from) to the bottom portion (to). When all desired results are transferred, click on **OK** to effect the transfer and return to the main window.

### ***Noncompliance Determination***

This section is divided into three parts, described below in greater detail:

- Preliminary TCR Noncompliance (Precompliance) Determination
- View Preliminary TCR NCD Results
- TCR NCD

#### ***Preliminary TCR Noncompliance (Precompliance) Determination***

Selecting **Edit/Noncompliance/Noncompliance Determination** displays the Noncompliance Determination Selection List (Exhibit 6-27).

The purpose of Preliminary TCR Noncompliance Determination is to give you a way to determine potential violations that might be assessed against a water system using the sample results/summary results that currently exist in your database for that water system without actually creating those violations in your SDWIS/STATE database. Preliminary TCR NCD lets you check the status of TCR noncompliance for a specified monitoring period and for a particular group of water systems as many times as you wish. It is anticipated that you, the compliance officer, will review the preliminary noncompliance results for each water system with the intention of making advisory phone calls to the water system, reviewing the list of sample results received for errors, or carrying out other appropriate procedures that ultimately reduce the list of potential violations created when you run NCD. Preliminary TCR NCD does not modify the SDWIS/STATE Oracle database in any way. Before you execute Preliminary TCR NCD, make sure that MS Access has been successfully installed on your workstation. SDWIS/STATE records the results of Preliminary TCR NCD in an MS Access database called PRECOMP.MDB that should be installed on your workstation at C:\SDWIS\DATA.

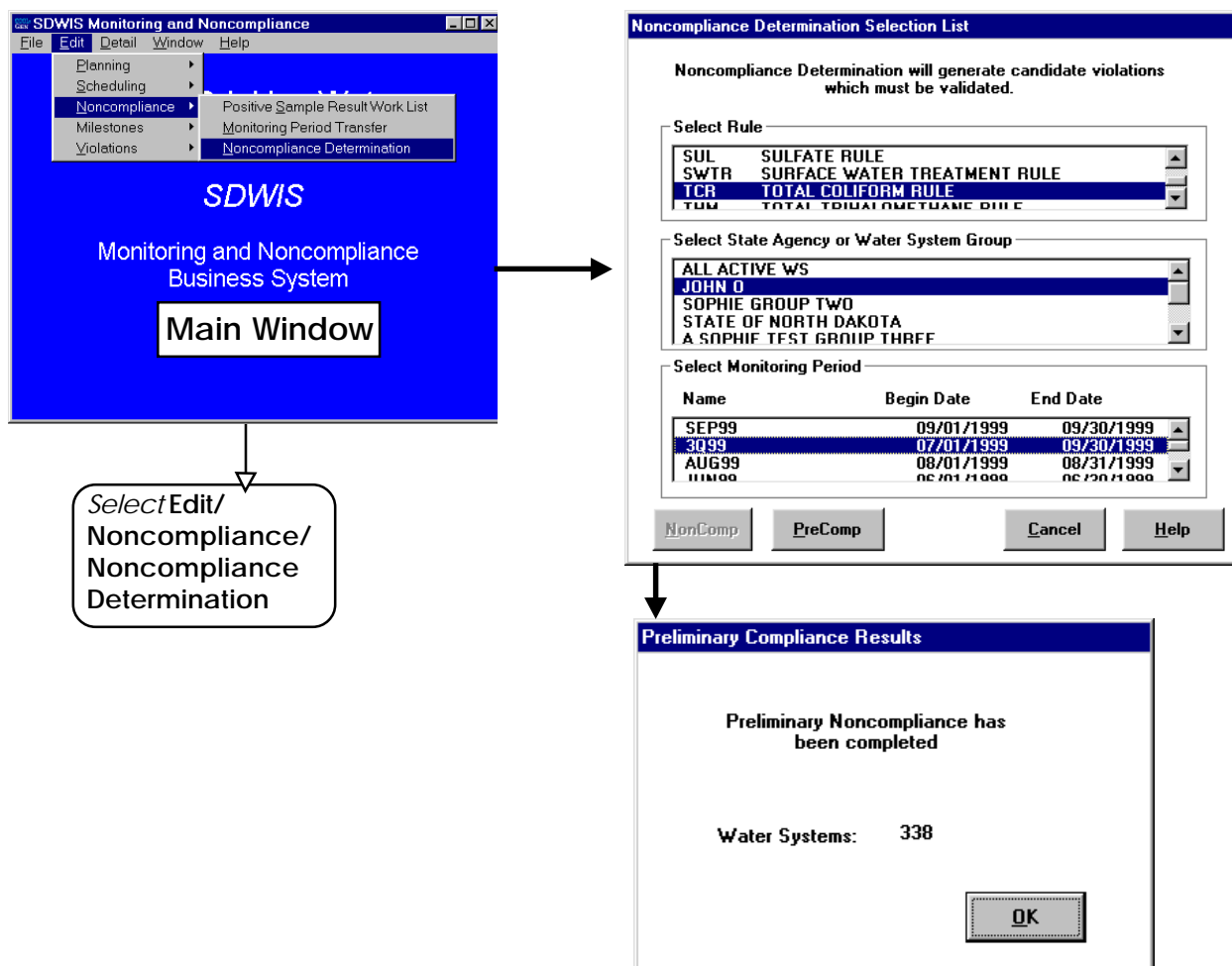


Exhibit 6-27. Preliminary Noncompliance Determination

At this time, automated NCD has only been developed for TCR. In the Select Rule list box, select TCR, water system group, or government agency, then the monitoring period for which you want to know potential violations. When you select TCR, the list of candidate water system groups and agencies appears. Likewise, when you select the group/agency, a list of monitoring periods appears in descending order by date for those monitoring periods for which automated compliance has not yet been determined. Future monitoring periods do not appear on the list. When selecting a government agency, remember that it must be given authority to determine noncompliance for a particular rule. The SDWIS/STATE Administrator grants this authority by selecting **Edit/Rule Authority** in *System Administration*. You may only run Preliminary TCR NCD for government agencies that were granted authority for TCR by the SDWIS/STATE Administrator (Exhibit 6-27).

The duration of processing depends on the size of the water system group or the number of water systems that fall under the selected agency's jurisdiction. Small groups can help minimize the processing time. You will know that processing has completed when you see the Preliminary Compliance Results dialog box, which advises you of the number of water systems evaluated.

When you click on the **PreComp** button, the application evaluates each water system's TCR sample results/summary results (in the water system group/regulating agency you select) that were collected during/associated to the monitoring period you select (or are associated to a positive result taken during the monitoring period) against the water system's RT or TR TCR sample schedule whose periodicity is the same as the selected monitoring period's duration (e.g., either MN or QT) and that is either in effect during the monitoring period selected or, in the case of repeat sample schedules, is associated to a positive result for the selected monitoring period. That means if the sample schedule is in effect for even one day of the monitoring period (and meets the other criteria), it is checked for compliance. Note: All TCR schedules use one of the federal TCR monitoring requirements that are stored in the Monitoring Requirements table (tablename TMNMNR). The software does the following for each of the water systems:

- Finds the routine/temporary routine TCR sample schedule that was in effect during the selected monitoring period and whose periodicity matches the duration of the selected monitoring period.
- Assesses whether the TCR routine sample results/and or summary results reported for the water system during the selected monitoring period met the monitoring requirement of that routine/temporary routine TCR sampling schedule.
- Finds any repeat TCR sample schedules associated to a positive TCR result that is associated to the selected monitoring period.
- Assesses whether the TCR repeat sample results, which are associated to the same positive TCR result as the repeat sample schedule, met the monitoring requirement of that repeat TCR sample schedule.

- Assesses whether the positive TCR sample results for the water system would result in a Monthly MCL violation (type 22).

Remember that SDWIS/STATE generates potential Acute MCL violations (type 21) as a function of your validating positive sample results. Potential acute violations are determined at this earlier stage to avoid generating inappropriate repeat schedules.

If the software encounters any positive results that have not been either explicitly validated or rejected, the Preliminary Noncompliance Verification dialog box appears, advising you of the situation and giving you four options:

**Validate All** causes an automatic validation of all positive TCR sample results reported for the water systems within the selected group/agency and linked to the selected monitoring period. Be careful not to use this if the list of positive results comes from samples collected on different dates since repeat sample schedules will likely be created during the process, all having the begin and end date you specify.

**Validate Selected** displays the Sample Result Validation window, where you may review and manually validate the TCR positive results before continuing.

**Cancel** ends the Precompliance process.

**OK** causes the Precompliance process to proceed without validating any not-yet-validated positive sample results. However, these results are not counted towards monitoring compliance. Sample summary results do not need to be validated to be counted toward monitoring compliance.

### ***View Preliminary NCD Results***

Each execution of Precompliance is considered a “session,” and the results of each session are stored in an MS Access database called PRECOMP.MDB. This database is installed on your workstation at C:\SDWIS\DATA\PRECOMP.MDB. You can retrieve the results from your session at your convenience, and you can keep records for as many old sessions as you care to manage. Each session is automatically named using the first five characters of your Oracle User ID followed by a five digit one-up number. This number increments for each session so that the session name is always unique.

From your SDWIS/STATE Program Group, click on the *View Preliminary Noncompliance Determination Results* icon. This opens your PRECOMP database to reveal the Precompliance Report window. Sessions are identified in the list by name, date/time of execution, and monitoring period to make it easy to pick the session whose results you wish to review. Double-click on the session and click on Print Preview. The TCR Preliminary Noncompliance Report shows you any potential violations (except for acute violations) that might be assessed against water systems (Exhibit 6-28). (As discussed earlier, potential acute violations are determined and created during the validation of positive results and can be viewed and validated (or rejected) from the Violation Maintenance List.) You can



print the report or review it online. When you are finished, close MS Access and return to SDWIS/STATE either by maximizing the minimized icon or by starting again. You can run additional precompliance sessions while you have your PRECOMP database open; however, you cannot view the results of any of those sessions until you close and reopen PRECOMP. The records for each session will remain in your PRECOMP database until you delete them. To delete a session, select one or more session names and click on the **Delete Session** button. Note that the TCR Preliminary Noncompliance Report does not contain potential acute MCL violations, as these will already exist in your SDWIS/STATE violation table as a result of validating positive TCR sample results.

TCR PRELIMINARY COMPLIANCE REPORT					
<b>Session Name:</b>		DEV_O00006		<b>Water System Group/Govt Agcy:</b> ILLINOIS EPA	
				<b>Monitoring Period:</b> APR 1999	
<b><u>Water System Number:</u></b>		IL0430300		<b><u>Water System Name:</u></b> DOWNERS GROVE	
<b>Potential Violation</b>					
<b>Type Name</b>		<b>Sample ID</b>			
		<b>Lab</b>	<b>State</b>	<b>Sampling Point Location</b>	<b>Collection Date</b>
23	MONITORING (TCR), ROUTINE MAJOR				
<b>Sample Schedule Requirement For this Period</b>				<b>Samples Results for this Period</b>	
<b>Required</b>	<b>Type</b>	<b>Number of Times</b>	<b>Per Time Period</b>	<b>Total</b>	<b>Exceedences</b>
50		1	Per Month	0	0

**Exhibit 6-28.** Partial TCR Preliminary Compliance Report Page

### ***Total Coliform Rule Noncompliance Determination (TCR NCD)***

TCR NCD is accessed from the same window as previously discussed for preliminary NCD. To start automated TCR NCD, select Total Coliform Rule, a government agency, and a monitoring period and click on the **NonComp** button. TCR NCD uses the same processing logic and features the same user interface that are associated with Preliminary noncompliance determination, with a few exceptions:

- You can only execute NCD for a government agency (not a water system group). The agency must have authority for the TCR.
- You may not proceed with NCD until all positive sample results are either validated or rejected for the specified period. If the software encounters any sample results that need to be validated, you need to either explicitly validate or reject them.
- NCD does not require MS Access because all potential violations are created in the Oracle database.
- Once you run noncompliance against a group of water systems for a monitoring period, you cannot repeat the process for that monitoring period.
- Violations generated as a result of either validating positive TCR results or executing noncompliance are considered “potential.” You need to validate them. *Migration to SDWIS/FED* will only include validated violations when it creates DTF transactions.

### ***Assessing TCR Monitoring Noncompliance***

TCR monitoring violations are determined through a comparison of the number of samples required (based on the water system’s TCR sample schedule) and the number of sample results reported for each water system for the selected monitoring period. If you report individual TCR sample results, SDWIS/STATE counts the number of routine, replacement, and repeat samples with valid results and compares that number to the number of samples required by the TCR schedule. If TCR sample summary results are reported for a water system, SDWIS/STATE counts the number of Routine Negatives (RT) and compares that to the number of samples required by the TCR schedule. All Sample Summary Results of type “RT” (which SDWIS/STATE understands as meaning “negative results from the distribution system”) reported for the water system and selected monitoring period are counted toward monitoring compliance. Therefore, if you report the count of negative results from the distribution system exclusively via sample summary, be sure to report them as type “RT.”

### ***Assessing TCR MCL Noncompliance***

To assess whether the water system should receive a monthly MCL violation (type 22), SDWIS/STATE first sums the total number of routine and repeat samples for the water system, which has valid results, that are associated to the specified monitoring period (value is X). Then it sums the total number of routine and repeat samples with positive results (value is Y).

If the total number of samples (X) is less than (<) 40 and the total number of positive samples (Y) is greater than (>) 1

OR

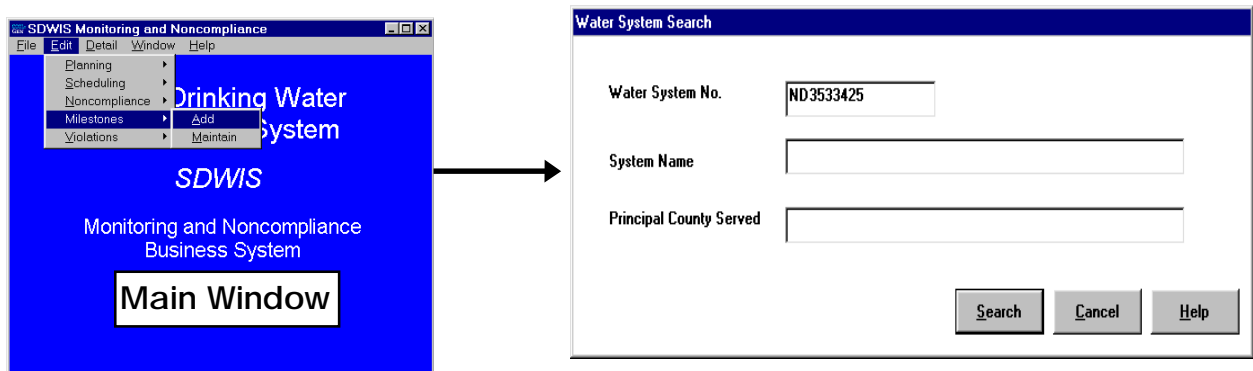
the total number of samples (X) is greater than or equal to ( $\Rightarrow$ ) 40 and the total number of positive samples (Y) is greater than 5.0 % of the total number of sample results (X)

the software determines that the water system has a monthly MCL violation (type 22) for the specified monitoring period.

## Milestones

The **Edit/Milestones** menu item allows states to add and maintain Milestone events. These milestone events can then be reported to EPA using *Migration to SDWIS/FED*. The two submenu items, **Add** and **Maintain**, are explained in detail below.

**Add** Clicking on **Milestones/Add** invokes a standard Water System Search window (Exhibit 6-29). Here, as in all other SDWIS/STATE components, you may enter a Water System No. and if there is an exact match, retrieve it and flow directly to the Milestone Event Maintenance window (Exhibit 6-30).



**Exhibit 6-29.** Water System Search

Once you select a water system, the Milestone Event Maintenance window appears to allow the entry of specific information about the Milestone event (Exhibit 6-30). The Milestone No. field is read-only; its value is system-generated when the milestone is created in the database and serves as the identifier for milestones that are migrated to the SDWIS/FED database. The Milestone Date is the date the Milestone Event occurred and must be a valid calendar date on or after 06/30/1991 and on or before the current date (except for milestone types PB90 or CU90, which may have a future date). The following are the permitted values for Milestone Type:

CCSR	Corrosion control study required
CCSC	Corrosion control study completed
CU90	Copper action level exceedance
DEEM	System deemed optimized without OCCT
DONE	System donewithout OCCT
LSLR	Lead service line replacement required
MPLS	Maximum permissible levels in source water
OTDE	Optimal Corrosion Control Treatment (OCCT) treatment designated or approved
OTIN	OCCT treatment installed
PB90	Lead 90 <sup>th</sup> action level exceedance
STDE	Source Water Treatment (SOWT) designated or approved
STIN	SOWT treatment installed
WQPS	Water quality parameters
MIF	Must install filtration

The Milestones Value field represents the actual value of the milestone and is only mandatory for Milestone Type PB90, CU90, or LSLR. For Milestone Type PB90, if the value does not exceed 0.015 mg/L, an advisory message appears. Values that do not exceed the federal action level for lead can be entered but are not reported to SDWIS/FED. For Milestone Type CU90, if the value does not exceed 1.3 mg/L, an advisory also appears. Again, as with PB90, the user can enter a CU90 value that does not exceed the federal action level. For Milestone Type LSLR, the value must be less than or equal to 1.00.

For Milestone of types DEEM and DONE, you will need to supply a Reason Code. Reason Code should be valued only for these two types. Valid Reason Codes for DEEM are B1, B3, or WQP. Valid Reason Codes for DONE are B1, B3, WQP, or LSLR.

**Water System Selection List**

Activity Status	System No.	Water System Name	Principal Cour
A	ND9412855	AAPPLE WATER SYSTEM	RICHLAND (N
A	ND3900001	ABERCROMBIE CITY OF	RICHLAND (N
A	ND1801056	AGASSIZ WATER USERS INC	GRAND FORK
A	ND2700006	ALEXANDER CITY OF	MCKENZIE (N
A	ND2711221	ALEXANDER WATER SPRING	MCKENZIE (N
A	ND0501057	ALL SEASONS WUA-SYSTEM I	BOTTINEAU (I
A	ND0501126	ALL SEASONS WUA-SYSTEM II	BOTTINEAU (I
A	ND0501127	ALL SEASONS WUA-SYSTEM III	BOTTINEAU (I
A	ND4001153	ALL SEASONS WUA-SYSTEM IV	ROLETTE (ND
A	ND3000012	ALMONT CITY OF	MORTON (ND
A	ND1010013	ALSEN CURLING CLUB CAFE	CAVALIER (N
A	ND1211226	AMBROSE COMMUNITY WELL	DIVIDE (ND)
A	ND0900017	AMENIA CITY OF	CASS (ND)
A	ND0310588	AMERICAN LEGION CLUB	BENSON (ND)
A	ND4711440	AMOCO PETROLEUM PRODUCTS TERMINAL	STUTSMAN (N
A	ND2500021	ANAMOOSE CITY OF	MCHENRY (N
A	ND3200023	ANETA CITY OF	NELSON (ND)
A	ND2910075	ANTELOPE VALLEY STATION	MFRICER (ND)

Search Criteria Used: NONE

**Milestone Event Maintenance - Add**

Water System

No.	ND4001153	Name	ALL SEASONS WUA-SYSTEM IV		
Federal Type	C	Federal Primary Source	GW	Activity Status	A
State Type	C	Population Served	97		

Milestone No. 0 [SDWIS/FED Data Origin](#): S [Milestone Date](#): 09/07/1999

[Type](#): DEEM - System deemed optimized without OCCT [Milestone Value](#): 0.00000000

[Reason Code](#): B1 - Serving fewer than 50,000 (met action level)

[Status](#): V - Validated [Date](#): 04/07/2000

[Comment](#)

[Associated Sample Summary](#) [OK](#) [Cancel](#) [Help](#)

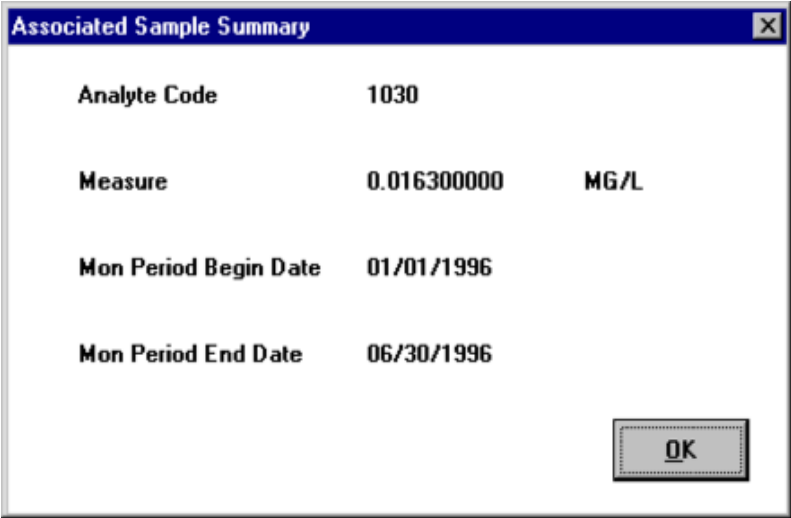
Selecting a water system from this list brings up the Milestone Event Maintenance window.

Exhibit 6-30. Milestone Event Maintenance

The Milestone Status and Status Date fields are mandatory. Status Date is the date that the Milestone Event Status was set. The default value is the current date. Clicking the **OK** button creates the milestone with your information and displays it in the Milestone Event Maintenance List.

Clicking the Inventory icon displays the standard Water System Information read-only dialog box. Clicking the Sampling icon evokes a read-only dialog box that displays Lead 90<sup>th</sup> percentile sample summaries for the selected water system.

The **Associated Sample Summary** button is enabled only when an associated sample summary record exists that triggered the creation of the Milestone. When you click on the **Associated Sample Summary** button, the Associated Sample Summary window appears with the Sample Summary result that triggered the creation of the Milestone Event (Exhibit 6-31).



The image shows a dialog box titled "Associated Sample Summary" with a close button (X) in the top right corner. The dialog box contains a table with the following data:

Analyte Code	1030	
Measure	0.016300000	MG/L
Mon Period Begin Date	01/01/1996	
Mon Period End Date	06/30/1996	

At the bottom right of the dialog box is an "OK" button.

**Exhibit 6-31.** Associated Sample Summary

**Maintain** To modify an existing Milestone Event, select **Milestones/Maintain**. This invokes the Milestone Event Search window (Exhibit 6-32). You can search by Water System or by Milestone. The specified search criteria may result in a list of up to 1,000 milestone event records. Within the Search by Milestone group box, you may search by milestone event type, by date (without milestone event type), or any combination of milestone event types and dates. Once you receive the list, you may select **Edit/Add, Edit/Change, or Edit/Delete**.

The two read-only informational fields at the bottom of the Milestone Event Maintenance List represent the number of records in the database that met the search criteria and the number of records that are displayed in the list window (Exhibit 6-33).

**Milestone Event Search**

Search by Water System

Water System No.   ALEXANDER CITY OF

OR

Search by Milestone

Milestone Event Type

Milestones between  and

**Exhibit 6-32.** Milestone Event Search Dialog Box

**Milestone Event Maintenance List**

File Edit View Window Help

Activity Status	Water System No.	Water System Name	Milestone Type	Milestone Date	Milestone No.
A	ND2700006	ALEXANDER CITY OF	CCSR	03/20/1995	53
A	ND2700006	ALEXANDER CITY OF	CU90	02/25/1994	54

Number of rows resulting from search criteria entered 2

Number of rows displayed 2

**Exhibit 6-33.** Milestone Event Maintenance List

## Violations

The **Edit/Violations** menu item offers two submenu items, **Add** and **Maintain**, that allow both individual and group violations to be added, changed, deleted, and validated. The sections below describe how to add, change, or validate an individual or group violation; link or unlink a violation to a Sample Analytical Result, Sample Schedule, or Enforcement Action; and assign a standard response to a violation. Group violations allow users to maintain what appears to be a single violation record for a group of analytes/contaminants. For instance, a monitoring violation for the 21 regulated volatile organic compounds (VOC) could be entered and maintained in SDWIS/STATE as if it were one violation. In reality, however, a violation will be created in the background for each of the analytes in the analyte group. A change to the group violation record changes all the individual violation records linked to it. Both individual and group violations can be linked to enforcement actions and sample schedules. Only individual violations can be linked to sample analytical results. A standard response may be applied to both individual and group violations.

On the Violation Maintenance window, you can optionally select a sampling point with which to associate the violation, except for violation types 21-26, 51-65, 71 and 72. SDWIS/STATE does not allow these violation types to be linked to a sampling point. If you associate a violation to a sampling point, the external system number for the water system facility will be reported to SDWIS/FED along with the violation as the Source/Entity (SEID) for the violation (i.e., data element C1143).

### *Add an Individual or Group Violation*

To add an individual or group violation, select **Edit/Violations/Add** from the *Monitoring and Noncompliance* main menu. The application flows to the Water System Search window (Exhibit 6-34).

Specify the search criteria and click on the **Search** button. If the criteria are sufficient to specify a single water system, the application flows to the Violation Maintenance window. The specified water system is displayed at the top of this window. If the search criteria do not display a single water system or even if no search criteria are entered, click on the **Search** button. The Water System Selection List is displayed.

To add a violation, enter data in the following mandatory fields in the Violation Maintenance window (Exhibit 6-34):



Select/Edit/Violations/  
Add from the main  
menu.

Water System Search

Water System No. ND3900001

System Name

Principal County Served

Search Window

Search Cancel Help

Violation Maintenance - Add

Water System No. ND3900001 Name ABERCROMBIE CITY OF

Violation No. 0 0 Determination Date 03/22/2000 SDWIS/FED Date Origin: S

Violation Type 02 Name MCL, AVERAGE Category MCL Monitoring Violation Type

Analyte Code

Individual 1005 Group

Compliance Period

Begin Date 03/01/2000 Duration MN-Month

End Date 03/31/2000 Mon. Period MAR-00

Water System Facility/Sampling Point

WSF Site Assign ID 950 Sampling Point ID 06 ABERCROMBIE CITY OF CRAIG MYIIRC

Analytic Result

Issuing Agency STATE DEPARTMENT OF HEALTH

Status Not-Validated Date 03/22/2000 CHR No.

Assign to Result Assign to Sample Schedule Enforcement Actions Standard Response Comments

OK Cancel

Exhibit 6-34. Add Violation Process

**Determination Date** Enter the date the violation was determined or created. It cannot be in the future.

**Violation Type** Enter two digits that categorize a violation. Click on the **Go To** button to access a list of valid violation types. When you select the type of violation, the following fields are automatically filled in from the database information: Category (such as MCL, monitoring, sanitary survey, public notice, treatment technique, reporting, or variance/exception); Name (identifies the violation type code); and Monitoring Violation Type (e.g., Repeat, Routine) only if the violation is a monitoring violation. If the correct violation type code is not there, ask your SDWIS/STATE Administrator to add it.

**Analyte Code** In a single violation, specify the Individual Analyte Code (click on the **Go To** button to access the Analyte Selection List). To enter a violation group, enter the Analyte Group Code (click on the **Go To** button to access the Analyte Group Selection List). An example of where you might create a violation group would be when you have a monitoring violation for the 21 regulated

volatile organic compounds (VOC). Assuming that you already have an Analyte Group with the 21 VOCs, you can enter that Analyte Group Code and other information about the violation group once on the Violation Maintenance window. In the SDWIS/STATE database, however, a violation created for each of the 21 analytes in the group. Any later changes to the violation group record will change each individual violation in the database.

*Compliance Period* Enter a date range (Begin Date and End Date), a Duration (pick from a dropdown list), or a Mon. Period (click on the **Go To** button and select from the Monitoring Period Selection List). SDWIS/STATE automates entry of some Compliance Period information and several rules apply to what information can be entered:

- C If on the Violation Maintenance window you enter a Begin Date and Duration and tab from one of these fields, SDWIS/STATE automatically calculates the End Date.
- C If you enter a Begin Date and End Date that match an existing monitoring period, SDWIS/STATE automatically populates the Mon. Period and Duration fields.
- C If you enter an existing Monitoring Period from the Monitoring Period Selection List, SDWIS/STATE automatically populates all other fields in the Compliance Period box. The following also apply to how a compliance period can be set up for a violation:
  - If a Begin Date, End Date, and Duration are entered, the Duration must match the time period between the begin and end dates.
  - You must either enter one date and a Duration, a Begin Date and an End Date, or the name of a Mon. Period to define a compliance period. Consult Appendix C of the SDWIS/STATE System Administration Guide for additional important information about violation compliance period duration.

*Issuing Agency* The application defaults to the primacy agency. If you want to change the default, enter the name of the agency or click on the **Go To** button for a list of government agencies.

*Status* Pick the status of the violation (Preliminary, Rejected, Validated, or Deleted) from a dropdown list. The default is Validated.

<i>Date</i>	Enter the date the status became effective. The application defaults to the current date.
<i>SDWIS/FED Data Origin</i>	Pick the origin of the data (i.e., State, Region, or Headquarters) from a dropdown list. The default is State.
<i>Analysis Result</i>	If the violation is a non-TCR, MCL violation (type 01 or 02), then you must enter an analysis result and a unit of measure from a dropdown list. The result should be in the same units as the MCL violation.

You may enter data in the following optional fields:

<i>Rule</i>	Enter the rule before you enter the CFR No. You may click on the <b>Go To</b> button to access the Rule Selection List.
<i>CFR No.</i>	Enter the Code of Federal Regulations (CFR) number or click on the <b>Go To</b> button to access the Code of Regulation Selection List from which you may select.
<i>WSF Asgn ID</i>	Enter the Water System Facility State Assigned ID to which the violation's sampling point belongs.
<i>Sampling Point ID</i>	Enter the identification code of Sampling Point to which the violation may be associated (except for violation types 21 - 26, 51 - 65, 71 and 72).

Click on the **OK** button to accept the criteria you entered in the Violation Maintenance window in the add mode. The application flows to the Violation Maintenance List. At this time, Violation No. is calculated internally. Violation No. is comprised of the Violation Fed Fiscal Year field (calculated from the Determination Date) and the External System No.

### ***Violation Uniqueness Criteria***

For violations of type 21-26, 51- 65, 71 and 72, the following uniqueness criteria exists: You will not be able to enter or change a potential or valid violation when another potential or valid violation of the same type, for the same Water System, of the same Analyte and for the same Compliance Period Begin Date already exists.

For all other types of violations (except those whose type is state-created/owned), the following two uniqueness checks exist:

- C You cannot enter or change a potential or valid violation that *is not* associated to a Sampling Point when another potential or valid violation of the same type, for the same Water System, of the same Analyte/Analyte Group and for the same Compliance Period Begin Date already exists, regardless of whether the existing violation references a Sampling Point or not.
- C You cannot enter or change a potential or valid violation that *is* associated to a Sampling Point (for example, “X”) when another potential or valid violation of the same type, for the same Water System, of the same Analyte/Analyte Group and for the same Compliance Period Begin Date already exists if:
  - The existing violation *does not reference* a Sampling Point.
  - The existing violation *references* a Sampling Point that belongs to the same Water System Facility as does the candidate violation’s sampling point (“X”).

Because the uniqueness criteria described above has not always existed in SDWIS/STATE, you may have two or more potential or valid violations of the same type, for the same Water System, of the same Analyte and for the same Compliance Period Begin Date in your database, and you may wish to link one (or more) of them to a sampling point to establish that they are unique and to report the violation’s SE ID to SDWIS/FED. If you want to make this change using the online Violation Maintenance window, first temporarily change one (or more) of the violation’s status to Rejected or Deleted in order to bypass the uniqueness check. Then go to the other violation and link it to its appropriate sampling point (without changing its status). Then, return to the previous violations and link them to their appropriate sampling point and change the status back to their original value.

If you have a large number of violations that need to be changed, an alternative to making individual changes online is to use *Migration to SDWIS/STATE*. To do this, export the violations that need to be modified as well as the enforcement actions referencing them to SDWIS/STATE structure-set formatted files, modify the data in the files to include the sampling points, and use *Migration to SDWIS/STATE* to remigrate the violations and enforcement actions to SDWIS/STATE. Before remigrating them, delete the exported violations and their associated enforcement actions from SDWIS/STATE and reset the external and internal system numbers by running the SETEISN.SQL script. (Note that it may be easier to simply remigrate all violations of type 01-10, 27MJ, 27MN, 28, 31MJ, 31MN, 36MJ, 36MN, 37, 38, 41, 42, 43, 44, 46, 47, & 48 and their associated enforcement actions.) If you use this second approach, consider taking advantage of the group violation capabilities of SDWIS/STATE as well, although this will cause a renumbering of violations that are part of a group violation.

### **CCR Violations**

Even though SDWIS/STATE does not require a Compliance Period Begin Date for CCR Violations (Types 71 and 72), you should supply one:

- c Type 71 Violations - Compliance Period Begin Date should be 10/19/1999 or 07/01/2XXX (July 1 or any year after 1999).
- c Type 72 Violations - Compliance Period Begin Date should be after 10/19/1999.

These dates are required by SDWIS/FED for those violation types. Compliance Period End Date for type 71 and 72 violations will cease to be required by SDWIS/STATE in a future release.

### *Change or Delete an Individual or Group Violation*

To retrieve or change an individual or group violation, select **Edit/Violations/Maintain** from the *Monitoring and Noncompliance* main menu. The application flows to the Violation Search window. You may search by water system number and violation number or search by analyte code, violation type, violation status, and date range. Specify the search criteria. You can retrieve up to 1,000 violations using the Violation Search dialog box. Or you can specify a unique violation by entering the Water System No., and [Violation] No. (which is composed of the federal fiscal year in the first field and external system number in the second field). Press **Search**.

If the search criteria are sufficient to specify a single violation, the application flows to the Violation Maintenance window. The linked water system is displayed at the top of this window. If the search criteria do not specify a single water system or if no search criteria are entered, click on the **Search** button. The application flows to the Violation Maintenance List.

If the violation for which you are searching does not immediately appear in the list, scroll down or sort the list. You can also filter items out of the list. Select **View/Sort** (choose one, two, or three sort orders from a dropdown list of filter criteria); **View/Filter By** (choose from a dropdown list of all the categories displayed in the maintenance list); or **View/Refresh** (to return to the original order of the list) to find the violation you want to change. If you wish to refine your search criteria, select **View/Search** to flow to the Violation Search window. Select a violation by highlighting a row in the Violation Maintenance List and choose **Edit/Change** or double-click on the row. The application flows to the Violation Maintenance window in the change mode.

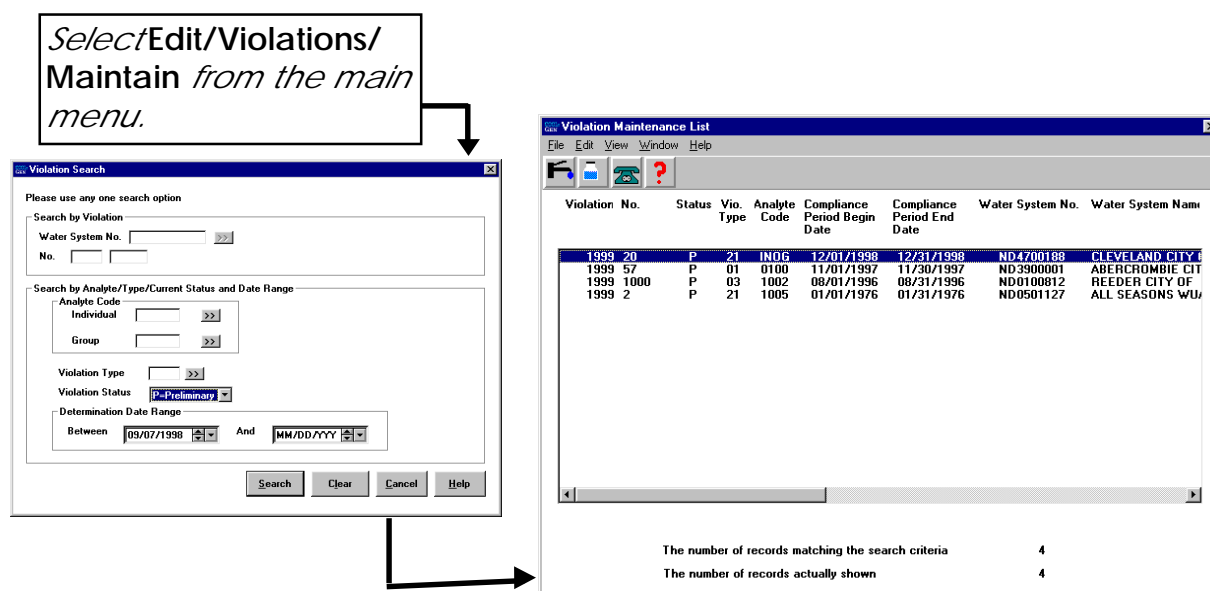
Change the fields as necessary. Fields on the Violation Maintenance - Change window are not protected. Click on the **OK** button to accept the criteria you have entered in the Violation Maintenance window in the change mode. The application flows to the Violation Maintenance List.

To delete an individual or group violation, select **Edit/Delete**. SDWIS/STATE sets the violation status to "D" for deleted but does not actually remove the violation from the database. The next time you search for the violation, it will not appear in your list unless you explicitly filter by deleted violations. You can also uniquely retrieve the deleted violation by specifying its Water System No. and Violation No. (Federal Fiscal Year and External System No.).

## Validate an Individual or Group Violation

To validate a violation, follow these steps:

From the Violation Maintenance List, highlight the violation you want to validate and choose **Edit/Validation**. The application flows to the Violation Validation window (Exhibit 6-35). Visually confirm that the water system number and name; the analyte code and name; the compliance period begin date and end date; and the violation type, name, number, and determination date are correct. To generate a violation letter, click on the Generate a violation letter check box; to apply a standard response, click on the Apply standard response check box (one or both boxes may be checked), and then click on the **Validate** button. If the Generate a violation letter check box has been checked, a violation letter is displayed in an MS Word file that you can print. When you close the MS Word file the Violation Maintenance List will appear.



**Exhibit 6-35.** Violation Maintenance Filter and Sort

When you select more than one violation for validation, you can generate a letter for each one. Similar to the Schedule Notification Letter, the application gathers and passes information to MS Word. For the address, the application uses the Administrative Contact for the Water System,

taking the Name from the Name for the Legal Entity, Address 1 from Address Line 1 for the Legal Entity, etc. If there is not an AC record for the water system, no address information appears in the letter.

All letters are merged automatically into an MS Word document called C:\SDWIS\TEMPLATE\VIOBOD.DOC, which stores a set of data values for your use. You may create your own template to satisfy local requirements. Refer to the MS Word documentation regarding the use of the merge documents feature. Unlike the Schedule Notification letters, these letters are merged to MS Word as they are validated. When the last violation is validated, MS Word is invoked and the merged documents become available for you. Do not save changes to the original Word templates when exiting the application. Make another copy of the template and save each one separately to preserve the original baseline template.

If the Apply standard response box is checked, the application flows to the Standard Response Selection List. Highlight a standard response and click on the **Show Details** button. The application flows to the Standard Response Associations dialog box. In this box, you can see the enforcement action and public notification activities that will be created if you apply the Standard Response. Click on **OK** to return to the Standard Response Selection List. To confirm the selection, click on the **Select** button. The application flows to the Violation Maintenance List after applying the selected Standard Response.

Select **File/Exit** to return to the main menu.

#### *Associate/Disassociate an MCL Violation to a Sample Analytical Result*

You can link MCL violations with the exceedence sample results that triggered the violation. From the Violation Maintenance window, click on the **Asgn to Result** button. The application flows to the Violation Microbiological Result Association List if the Analyte Type code is MOR (microbiological) or flows to the Violation Chem/Rad Association List if it is not.

To link a sample analytical result to a violation, click on the **Associate Result to Violation** button. The application flows to the Violation Microbiological Selection List or to the Violation Chem/Rad Selection List. Highlight the sample analytical results you want to link to the violation and click on the **Select** button. The application flows to the Violation Microbiological Result Association List or to the Violation Chem/Rad Association List with the selected results displayed. Click on **OK** to return to the Violation Maintenance window. To disassociate a Sample Analytical Result from a violation, highlight the result and click on the **Disassociate Result from Violation** button. The link is deleted.

Click on **OK** to return to the Violation Maintenance window.

In the maintenance window, you may continue to make other changes. Click on the **OK** button to accept the changes and return to the Violation Maintenance List.

### *Associate/Disassociate a Violation to a Sample Schedule*

You can link monitoring violations with the monitoring schedule for which failure to comply caused the resulting violation.

From the Violation Maintenance window, click on the **Asgn to Sample Schedule** button. The application flows to the Violation Sample Schedule Association window. Click on the **Select Sample Schedule** button. The application flows to the Violation Sample Schedule Selection List. Highlight the schedule you want to link to the violation and click on the **Select** button. The application flows to the Violation Sample Schedule Association dialog box. If, however, you want to diassociate a sample schedule from a violation, highlight the sample schedule in the Violation Sample Schedule Association dialog box and click on the **Disassociate Sample Schedule** button. The application flows back to the Violation Maintenance window with the sample schedule no longer assigned to the violation. Note that WSF and Sampling Point information shows in the Violation Sample Schedule Association dialog box if you selected a Sampling Point Schedule.

In the maintenance window, you may continue to make other changes. Click on the **OK** button to accept the changes and return to the Violation Maintenance List.

### *Associate/Disassociate a Violation to an Enforcement Action*

From the Violation Maintenance window, click on the **Enforcement Actions** button. The application flows to the Violation Enforcement Actions Association List.

If you want to link one or more enforcement action to a violation, select the **Associate Enforcement Action(s)** button. The application flows to the Enforcement Action Maintenance List. Highlight the enforcement actions and select **Edit/Select**. You can also add an enforcement action and then select it. The application returns to the Violation Enforcement Actions Association List with the selected enforcement actions displayed in the Enforcement Actions box. Press **OK** to complete the association of the enforcement action and return to the Violation Maintenance window.

If you want to disassociate an enforcement action from the violation, highlight the enforcement action and then select the **Disassociate Enforcement Action(s)** button. The Orphan Enforcement Action Confirmation dialog box may appear. It may inform you that this is the only violation to which this enforcement action is assigned. If you do not change the status to Rejected, it may result in an orphan enforcement action record in both SDWIS/STATE and SDWIS/FED. Click on **Yes** to change the status to Rejected; **No** to keep the status unchanged and return to the Violation Enforcement Actions Association List; or **Cancel** to terminate the action and return to the Violation Enforcement Actions



Association List. Select **OK** to return to the Violation Maintenance window with the enforcement action disassociated. In the maintenance window, you may continue to make other changes. Click on **OK** to accept the changes and return to the Violation Maintenance List.

### *Apply a Standard Response to a Violation*

When a violation is initially added to SDWIS/STATE, usually a standard set of enforcement actions and public notification (PN) activities is added and associated to the violation (e.g., violation notice - SIA, public notification requested - SIE, notify the public by publication in a newspaper, etc.). Entering and associating these records to the violation can be time consuming. The Standard Response component was developed to significantly reduce the effort needed to enter these standard set of records. By applying a predefined Standard Response to a violation, you can enter these enforcement actions and PN activities with a few keystrokes.

Standard Responses are predefined by the SDWIS/STATE Administrator for use in the Violation Maintenance area. SDWIS/STATE is delivered with six predefined standard responses that address the six most common set of responses to violations:

1. Response to an Acute Violation for Community Water System (CWS) served by a Daily or Weekly Newspaper.
2. Response to an Acute Violation for a Non-Transient, Non-Community Water System (NTNC), Transient, Non-Community Water System (TNC), or CWS without a Daily or Weekly Newspaper.
3. Response to a Non-Acute Maximum Contaminant Level (MCL) or Treatment Technique Violation for CWS with a Daily or Weekly Newspaper.
4. Response to a Non-Acute MCL, or Treatment Technique Violation for a NTNC, TNC, or CWS without a Daily or Weekly Newspaper.
5. Response to a Monitoring and Reporting (M/R) Violation for CWS with a Daily or Weekly Newspaper.
6. Response to an M/R Violation for a NTNC, TNC, or CWS without a Daily or Weekly Newspaper.

To apply one of these Standard Responses to a violation, follow these steps:

From the Violation Maintenance window, click on the **Standard Response** button. The application flows to the Standard Response Selection List.

Highlight the desired standard response and click on the **Show Details** button to flow to the Standard Response Associations window. Enforcement action types and activities associated with the selected standard response are listed in this window.

Click on the **OK** button to return to the Standard Response Selection List.

Click on **Select** to return to the Violation Maintenance window.

In the maintenance window, you may continue to make other changes. Click on the **OK** button to accept the changes and return back to the Violation Maintenance List.

# Chapter 7: Sampling Via Electronic Data Interchange (EDI)

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SDC-0002-017-CW-2018A  
April 14, 2000



## Electronic Data Interchange (EDI)

Electronic Data Interchange (EDI) is the electronic exchange of information from one computer to another in a standard format. The SDWIS/STATE *Sampling via EDI* component allows states to receive laboratory sample result information electronically and transfer it to the SDWIS/STATE database. *Sampling via EDI* uses the same data editing checks that apply to samples and results that are entered manually in the SDWIS/STATE application.

States interested in implementing an EDI program should obtain copies of the OGWDW EDI Implementation Guideline from the EPA. This guideline explains in detail the steps required to implement the receipt of samples and results via EDI. Briefly, the OGWDW EDI program supports laboratories in creating files directly from their Laboratory Information Management Systems (LIMS), converting the files to a standard file format, and transmitting the files to the state for processing. The standard file format used by OGWDW is specified by the American National Standards Institute (ANSI), American Standards Committee X12 (ASC X12). It is further described as Standard 863 “Report of Test Results.” States receive the file and convert it to the format required by the *Sampling via EDI* component.

## Sampling Via EDI Component of SDWIS/STATE

The *Sampling via EDI* component takes advantage of EDI standards to electronically transfer sampling results recorded in a LIMS system to the state’s SDWIS/STATE database. The primary benefit of *Sampling via EDI* is that samples that were previously recorded (in LIMS, for example) do not need to be reentered manually in SDWIS/STATE. This electronic transfer saves time and eliminates data entry errors. *Sampling via EDI* inserts sample and result data into the SDWIS/STATE database; it does not update existing data.

Before using *Sampling via EDI*, User-Defined Files (UDF), hereafter referred to as structure set-formatted files, must be created and formatted correctly outside of the application. These structure set-formatted files are fixed-format data files that comply with requirements of field, domain, size, position, and specified business rules. Laboratory data files must be prepared in the correct structure set format and be accessible on your PC before *Sampling via EDI* can be run. The complete specification needed to create a structure set-formatted file is located in the Sampling via EDI Structure Set-Formatted File Specification, which can be found as Appendix E of this guide. These structure sets accommodate both individual samples and results as well as sample summaries and summary results.

## Preparing the Sampling Via EDI Structure Set-Formatted File

### Structure Set Components

The two sampling structure sets are composed of four components:

1. *File Layout* describes the structure (i.e., field name, domain, size, position, optionality, and business rules of the file). There are four different file layouts for individual sample results: TCR, Chemical and Pb/Cu, Radionuclide, and Water Quality. The fifth file layout describes Sample Summaries.
2. *Permitted Values* (for those fields that have permitted values) lists the valid permitted values for each field that may only be populated by one of a discrete list of permitted values. These fields are noted with an asterisk (\*) in the *Field No* column of File Layout.
3. *Mapping to SDWIS/STATE Entities and Attribute* details the correspondence between the structure set attributes and SDWIS/STATE entities and attributes.
4. *Definitions* exists for each field of the structure set.

### File Layout Characteristics and Instructions

The following columns characterize the File Layout:

<b>Field No</b>	is an arbitrary number used to designate a field in the structure set. Fields are numbered consecutively from the beginning to the end of the file. The same number refers to the same field across all the tables of the structure set. For example, Field No. 6 in the B_Sample_Sample_Summary structure set refers to the attribute B_Water_System_Number in the File Layout, Permitted Value List, Mapping, and definition tables.
<b>Field Name</b>	in most cases is the same as the field name in the counterpart SDWIS/STATE table, with “B_” added to the beginning. Some field names have been modified from the counterpart SDWIS/STATE application name for clarity or because of space constraints.
<b>Domain</b>	designates a field as one of the following:  AN     alphanumeric uppercase ANmc   alphanumeric mixed case DT     date (MMDDYYYY) TM     time (24-hour clock; HHMMSS) N     numeric (including decimal, such as 5 (4(2)) = NN.NN, where 5 = total number of characters including decimal when number is converted to ASCII, 4 = number of significant digits, and 2 = number of decimal places)

**Size** is the length of the field. *Note: Left justify all data and add with blank spaces where necessary to match the specified field size.*

**Position** is the column position where the field should be placed in the ASCII table.

**Optionality** classifies each field as one of the following:

<i>Mandatory</i>	Always required
<i>Optional</i>	Always optional
<i>Conditionally mandatory</i>	Mandatory under the condition described; otherwise optional.

The information for what constitutes a unique row as well as business rules are also included in this column.

### ***Instructions for Preparing the Single Sampling Structure Set-Formatted Text File***

Two separate structures support *Sampling via EDI*: B\_Sample\_Sample\_Summary characterizes a sample or sample summary; B\_Result\_Summary\_Result characterizes an individual result or summary result. Each structure contains five file layout tables—one for each of the types of samples (i.e., total coliform, chemical, lead and copper, radionuclide, and water quality), and one for sample summaries. The two structure sets, however, should be used to produce a *single text file*. This text file typically contains information for a sample (or summary) on the first line, followed by the results for that sample (or summary) on the following lines.

Once all sample and result information for a single sample is recorded in the file, the next line contains information for the next sample followed, on the succeeding lines, by its results. Typically, one file might contain six months of TCR samples and results, six months of lead and copper samples and results, or six months of TCR summaries and summary results. The B\_Sample\_Sample\_Summary structure set should produce a 375-character fixed length record that starts with “HDR.”

Each sampling input file must start with an HDR record. The B\_Result\_Summary\_Result structure set should produce the same length record that starts with “DTR.” An input file containing samples begins with an HDR record to represent the sample information, followed by as many DTR records as there are results for the sample. For example, a file containing TCR samples, where each sample typically contains one and at most two results, might resemble the following:

HDR.....
DTR.....
HDR.....
DTR.....
DTR.....
HDR.....
DTR.....

By contrast, a file containing chemical samples, where there could often be multiple results per sample, might resemble the following:

HDR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....
DTR.....

Unless the sample (HDR string) is designated a rejected sample, it must be followed by its results (DTR strings) to process and insert the sample and results into SDWIS/STATE successfully. The file will not process successfully if all the result records are appended after all the sample records. Do not forget to left justify the data in all fields and to blank fill the entire position to the right (including to the end of the 375-character string).

## Using Sampling Via EDI Basics

To start the *Sampling via EDI* component, double-click on the *Sampling via EDI* icon. You will need to specify whether you wish *Sampling via EDI* to automatically generate sampling points that do (Y) or do not (N) exist. If you specify Yes, *Sampling via EDI* creates sampling points—when they do not exist in the database—from the sampling point information referenced in each sample. (This is the functionality with which you are familiar and which has always been available with this component.) If you specify No, you are telling *Sampling via EDI* that you do not wish any sampling points to be created. This means that samples that reference sampling points that do not exist in the database will be rejected. You will not be able to process samples using *Sampling via EDI* unless you specify your choice regarding the automated generation of sampling points.

Click on the **Start Processing** button on the *Sampling via EDI* window (Exhibit 7-1) to initiate processing. Pressing this button invokes the SDWIS Input File dialog box. Select the structure set-formatted file that you wish to process. Specify the drive and directory as well as the file you wish to process. Once you select the file and click on **OK**, processing begins. Once processing has begun, the **Exit** button is disabled.

*Sampling via EDI* processing may take several hours depending on the amount of data. For this reason, you should begin processing during the evening or on a weekend. Discontinue all other work on SDWIS/STATE during *Sampling via EDI* processing to maintain the integrity of your data and to expedite the processing. You may also want to ask your DBA to perform an export (backup) of the database before you begin processing EDI files.

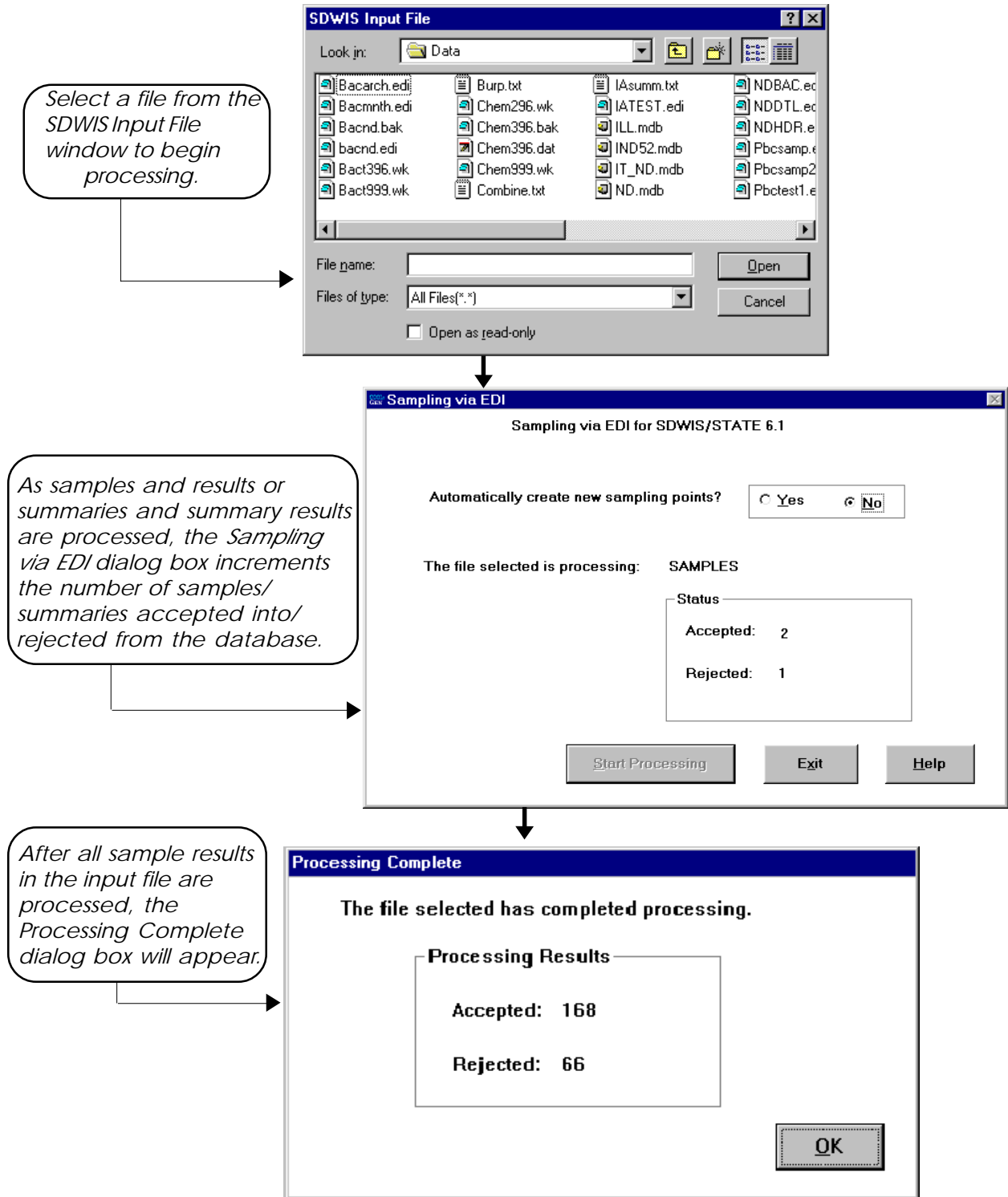
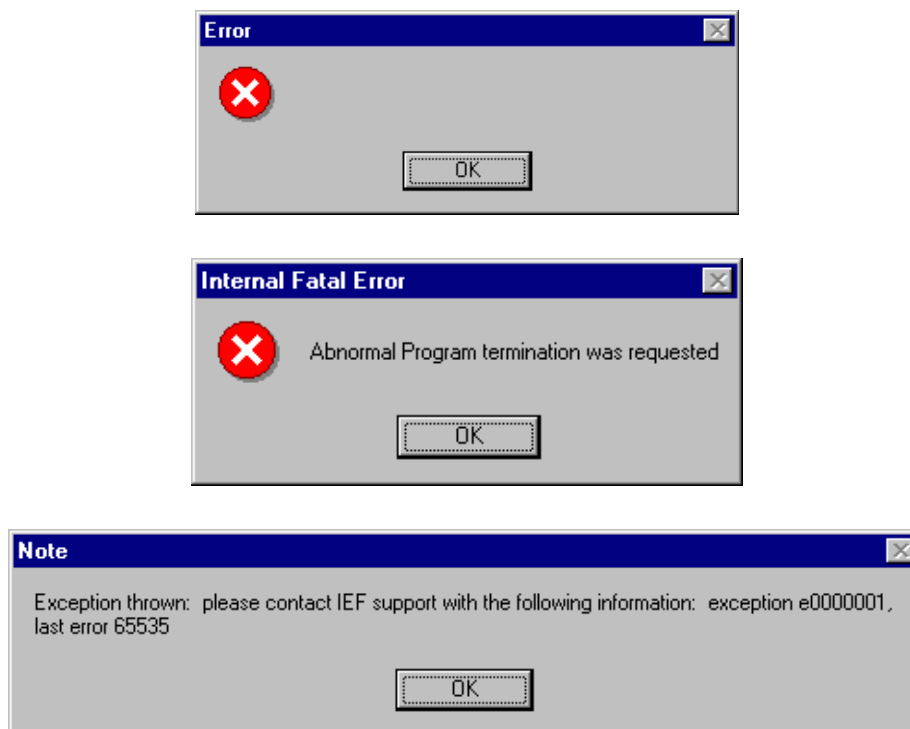


Exhibit 7-1. Sampling Via EDI

As *Sampling via EDI* processes your file, it informs you of how many samples or sample summaries are accepted and/or rejected. Once your file has completed processing, you receive a Processing Complete dialog box showing the number of samples or sample summaries that were accepted or rejected (Exhibit 7-1).

### ***Error Message Resulting From Incorrectly Formatted Text Files***

In the input text file that you selected, if the HDR and DTR strings are a length other than 375, you may receive an Internal Fatal Error message—“Abnormal Program Termination was Requested.” Another reason you may see this message is that the HDR and DTR values are not the first three characters of each string as specified in the Structure Set File Layout. In either case, processing stops, and you receive the following dialog box messages on your desktop (Exhibit 7-2).

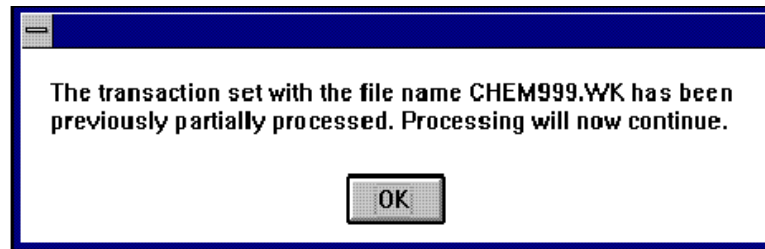


**Exhibit 7-2.** Error Messages Encountered With Incorrectly Formatted Text File

### ***Sampling via EDI: Restart Capability***

If you experience a power outage or other accidental termination while you are executing *Sampling via EDI*, you can restart the program. If you have initiated *Sampling via EDI* and the program abnormally terminates, simply restart the file using the steps listed above. After selecting the text file, you receive a message indicating that the file has been partially processed (Exhibit 7-3).





**Exhibit 7-3.** Partially Processed Information Message

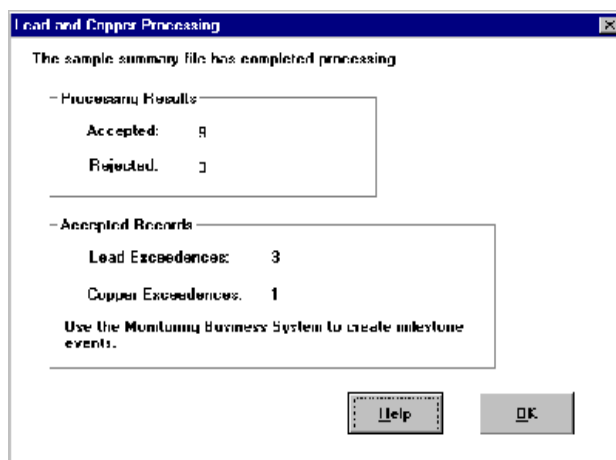
Press **OK** to restart processing. The counts on the *Sampling Via EDI* window reflect the samples or summaries processed from the point of restart.

As *Sampling Via EDI* processes your file, it informs you of whether you are processing samples or sample summaries, and it lets you know how many of each are accepted or rejected from the SDWIS/STATE database. Samples that are accepted are combined with samples that are flagged on the *Accepted* field in the *Sampling via EDI* window. Specific definitions for accepted, accepted w/flag, and rejected are covered in the Reporting the Results section of this chapter.

### ***Processing Lead and Copper Sample Summaries***

If your structure set-formatted text file included 90<sup>th</sup> percentile lead or copper summary results that exceeded an action level, a count of the records that exceed the analyte action levels is recorded in the Analyte Level Rule Assignment table (TMNALRA). This count, one for lead samples and one for copper samples, is displayed in the Lead and Copper Processing Complete dialog box at the end of EDI processing (Exhibit 7-4). *Sampling via EDI* does not create equivalent milestone event records for these exceedence results. Equivalent milestone event records must be added using the Milestone Event Maintenance window available from the *Monitoring and Noncompliance Determination* main menu.

The Lead and Copper Processing Complete dialog box displays only when processing sample summary lead and copper data. For all other data, the standard Processing Complete dialog box is displayed after the file has completed processing.



**Exhibit 7-4.** Lead and Copper Sample Summary Result Processing

## Sampling Via EDI: Reporting the Results

As *Sampling via EDI* processes each record in the selected text files, it makes one of three disposition decisions. It accepts the candidate record into one or more of the appropriate Oracle tables outright, it flags and accepts the candidate record into one or more of the Oracle tables with one or more changes to a field, or it rejects the record outright. The list below describes each disposition decision along with examples of each. The edit checks used during the decision-making process are listed in the Sample and Result Structure Sets in Appendix E of this document.

**Accepted (A)** Records that are accepted meet all edit checks. These records are inserted directly into the appropriate SDWIS/STATE Oracle tables, but an information record of each sample or sample summary processed is captured in the STATUS table of SDWISCOM.MDB.

**Accepted w/Flag (F)** Accepted with flag samples and results meet all required edit checks and are inserted into the database, but part of the information may not be transferred. These instances occur if SDWIS/STATE does not recognize part of the data; but that does not mean the data are rejected because of an edit check. Examples include the following:

- Results with an analytical method code that is not in the SDWIS/STATE database.
- Results whose concentration exceeds the Maximum Contaminant Level (MCL).

None of these examples are reasons to reject a sample or result. However, it may be useful to know, for example, that the laboratory supplied a collector name or analytical method, but that it could not be associated with the sample because it did not exist in the database.

**Rejected (R)**

Rejected samples do not meet one or more of the mandatory edit checks. A sample is rejected if it or any one of its results fails its respective edit checks. Common reasons for rejecting a sample include the following:

- Analyte code for the result is not in the database.
- Water system facility state-assigned ID supplied with the sample is not in the database.
- Original lab sample ID for a repeat sample is not provided or found in the database.
- Neither a sampling point nor sampling location is supplied with the sample.

Samples that are accepted are combined with samples that are flagged on the Accepted field in the *Sampling via EDI* window.

- The Rejected Samples Report (Exhibit 7-5) lists all samples or sample summaries that were rejected from the text file processed at the date/time that you select. All samples that appear in this report have been rejected, even though some component results may have passed all edit checks. The example in the exhibit shows that the sample was rejected because of an unknown water system facility referenced in the sample record; however, none of the results were rejected. It would be necessary only to add the referenced water system facility to the *Inventory* database to ensure successful insertion of this sample.
- The Flagged Samples Report (Exhibit 7-6) lists all samples or sample summaries that were accepted but flagged from the text file processed at the date/time that you select. *Accepted but flagged* indicates that while the sample and all its results were accepted, the data in one or more optional fields did not meet an edit check and were not accepted with the sample, result, sample summary, or summary result.

It is critical to have unique lab sample numbers for all electronically processed samples. In addition, each sample must have either a sampling point or sampling location. If the sampling point/sampling location supplied does not exist in SDWIS/STATE, *Sampling via EDI* creates and associates it with the sample.

Some states have indicated that due to the number of sampling points within a distribution system, the state prefers to maintain a single sampling point that represents all sampling points in the distribution system. These states can use a sampling point whose identification code is DIST for each water system facility. DIST is a reserved sampling point that represents all the distribution system sampling points to the *Sampling via EDI* component.

*Sampling via EDI* does the following with structure sets that have the value DIST in the SAMPLING\_POINT field (as defined in *Sampling via EDI Structure Set-Formatted Files*):

- Retrieves the sampling point whose Identification Code is DIST that belongs to the Water Facility State Code listed in the structure set-formatted files record and the Water System listed in the same structure set-formatted files record. If there is no DIST Sampling Point, the application creates one with the following characteristics and associates it with the Water System Facility listed in the same structure set-formatted file record:
  - Identification Code: DIST
  - Location: DISTRIBUTION SYSTEM
  - Type: DS
  - Represents Distribution System Indicator: Y
  - Source Type: FINISHED

Once created/retrieved, SDWIS/STATE associates the DIST sampling point with the sample supplied in the structure set-formatted file.

- Set the text value in the SAMPLING\_LOCATION field (number 11 of the structure set-formatted file structure) to the Comments field in the TSASAMPL table. The address where the sample was taken is viewable by accessing each sample from *Sampling* and clicking on the **Comments** button.

## **SDWISEDI.MDB Structure**

*Sampling via EDI* reports the results of each file processed to a local MS Access database located at C:\SDWIS\EDIDATA\SDWISEDI.MDB. After the file has completed processing, you may view the detailed results in the Rejected Samples Report (Exhibit 7-5) and the Flagged Samples Report (Exhibit 7-6). All samples that appear in the Rejected Samples Report were rejected, even though the results of a rejected sample may have passed the edit checks. The sample that appears in Exhibit 7-5, for example, would have been accepted had there not been a problem with the Water System Facility State Code. You can use MS Access capability to create an RTF file. You may create your own reports in MS Access to review the data for rejected or flagged samples. The following description of the SDWISEDI database will help you create your queries.

*Sampling via EDI* creates information on each sample processed and inserts it into tables in the SDWISEDI.MDB database. Exhibit 7-7 shows the relationships among these tables. All flagged and rejected samples and their associated results are captured in the HEADER and DETAIL tables. Reports can be created to return information to the laboratories so they can review any rejected samples.

**Rejected Samples****File Name:** CHEM296.WK 199703111804**Date/Time:** 03/11/1997 18:04**Total Accepted/not flagged:** 10**Total Accepted/flagged:** 87**Total Rejected:** 119

<b>Transaction No.</b> 0000107401	<b>Lab Sample No.</b> 00512189	<b>Water System No.</b> IA2322066	<b>State Lab ID:</b> 27	<b>Collection Date</b> 12261995
* <b>Sample Disposition:</b>	REJECT: Water System Facility for non-Repeat/Invalid Replacement sample for compliance—Value supplied not found in database (SAMPLE)			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	No anomolies found while processing this part of the sample set.			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	No anomolies found while processing this part of the sample set.			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: “Lab Reporting Level” supplied exceeds analyte’s MCL value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: “Analysis Method Code” — value supplied not found in database			

\* Read Rejection reason here.

**Exhibit 7-5.** Example of a Rejected Samples Report

7-12

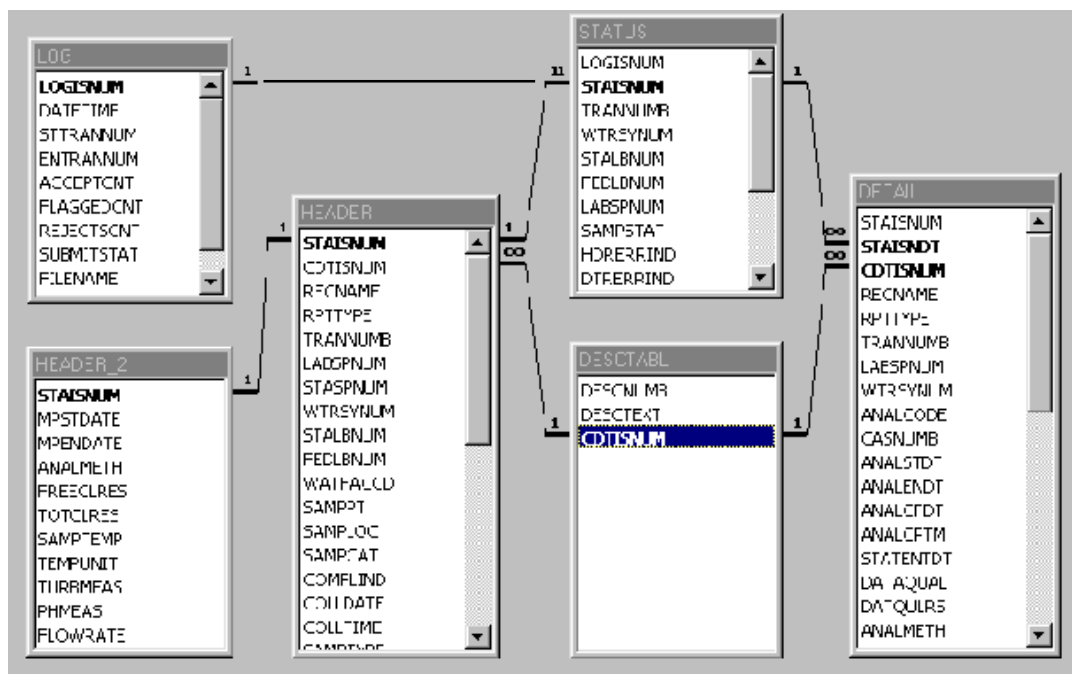
Flagged Samples				
<b>File Name:</b>	CHEM396.DAT 199703111842	<b>Transaction Date:</b>	03/11/1997 18:42	
<b>Total Accepted/not flagged:</b>	3	<b>Total Accepted/flagged:</b>	260	<b>Total Rejected:</b> 139
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: "Lab Reporting Level" supplied exceeds analyte's MCLG value			
<b>Result(s) Disposition:</b>	FLAG Non-Microbiol SAMPLE RESULT: "Lab Reporting Level" supplied exceeds analyte's MCLG value			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			
<b>Transaction No.</b>	0000108341	<b>Lab Sample No.</b>	00510472	<b>Water System No.</b> IA9774033
<b>State Lab ID:</b>	27			
<b>Collection Date</b>	10111995			
<b>Sample Disposition:</b>	FLAG SAMPLE: "Collector Name" — value supplied not found in database			
<b>Result(s) Disposition:</b>	FLAG SAMPLE RESULT/SAMPLE SUMMARY: "Analysis Method Code" — value supplied not found in database			

\* Read Flagged reason here.

**Exhibit 7-6.** Example of a Flagged Samples Report

SDWISEDI.MDB consists of the following seven informational tables:

- LOG:** A row is recorded in the LOG table for each file processed. Uniqueness is established based on the combination of file name and date and time that processing began. (This allows a file of the same name to be processed more than once and makes it easy to retrieve for reporting.) The letter *C* indicates that processing completed normally for that file; the letter *P* indicates that processing terminated prior to the end of the file.
- STATUS:** A row is recorded in the STATUS table for each sample or sample summary processed. The row contains the information necessary to identify the sample or sample summary as well as to indicate whether the sample or sample summary was accepted, accepted with a flag, or rejected.
- HEADER:** A row is recorded in the HEADER table for all data associated with each sample that is rejected or flagged.
- HEADER\_2:** A row is recorded in the HEADER\_2 table to capture field results (e.g., water temperature, free chlorine residual, total chlorine residual, etc.) for all flagged and/or rejected samples. This table is directly linked to the HEADER table.
- DETAIL:** A row is recorded in the DETAIL table for each result associated with the sample that was rejected or flagged.
- DESCTABL:** DESC TABL is a reference table of all error and flag codes used in *Sampling via EDI*. Since this is a reference table, any changes may prevent smooth processing of samples as well as preclude the accurate reporting of any anomalies encountered during processing.
- SYSTEM:** The SYSTEM table contains the counter for the other tables' internal system numbers. If you wish to reset the Next Val number, completely delete all rows in the LOG, STATUS, HEADER, HEADER\_2, and DETAIL tables. This table is not shown in Exhibit 7-7 and should not be used for reporting purposes.



**Exhibit 7-7.** Relationship of SDWISEDI.MDB Tables





## Enforcement Basics

SDWIS/STATE enforcement functions are maintained in its *Enforcement* component. Extensive capabilities are available in this component for recording and tracking enforcement actions, compliance schedules, public notification schedules as well as other enforcement related activities.

The *Enforcement* component menu items are described in the following order:

**Enforcement Actions**  
**Compliance Schedules**  
**PN Schedules**  
**Assistance Actions**  
**Reports**

## Enforcement Actions Maintenance

Enforcement actions are maintained by adding new records and changing or deleting existing ones, as necessary. There are two separate methods for adding enforcement actions. The first method is to use the **Enforcement Action** maintenance function described in this chapter. The second method is to use the **Standard Response** maintenance function at the time a violation is entered. The Standard Response method is not described in this chapter. Standard Responses are maintained in the *System Administration* component but are applied in the *Monitoring and Noncompliance Determination* component. For a description of how to maintain Standard Responses, see the section on Enforcement Support in the System Administration Guide. See the chapter on Monitoring and Noncompliance Determination in this Guide for a description of how to apply a Standard Response.

### *Add an Enforcement Action to a Specific Water System*

1. To add an enforcement action, select **Edit/Enforcement Actions/Add** from the main menu. The Water System Search window appears.
2. Specify the search criteria and click on the **Search** button. If the search criteria are sufficient to specify a single water system, the application flows to the Enforcement Action Maintenance window with your water system displayed at the top of the window. If the search criteria do not specify a single water system or even if no search criteria are entered, click on **Search** to invoke the Water System Selection List.
3. Enter enforcement action data.

To create an enforcement action, enter data in the following mandatory fields in the Enforcement Action Maintenance window (Exhibit 8-1):

*Action Type* Type the action type or click on the **Go To** button to display a list of action types from which you may select. If an invalid action type is typed, the selection list displays by default. Note that if you select a state-owned action type, then the linked federally owned action type (i.e., if the state-owned action has been linked to a federally owned action type) appears in the *Rpt to FED as* field. Once you have saved the enforcement action, the action type cannot be changed.

In the *System Administration* component, the SDWIS/STATE System Administrator can add action types that are unique to the state. This is what is meant by “state-owned.” This term should not be confused with federally owned state actions which start with the letter “S” (e.g., SIA, SIE, SIF, SFL, SFK, etc.).

*Status* Select from the dropdown list. The default status is “Taken.”

*Status Date* Enter the status date.

*SDWIS/FED Data Origin* Select from the dropdown list. The default is “S” for state. You should only select “R” (for Region) if you are entering an enforcement action that was taken by an EPA Regional Office. (Only enforcement actions whose data origin code is “S” can be reported to SDWIS/FED using *Migration to SDWIS/FED*.)

*Regulating Agency* The application defaults to the primacy agency. If another agency took the action, you can enter the name of the regulating agency or click on the **Go To** button to display a list of agencies. If you enter an invalid agency, the selection list displays. The Regulating Agency Selection List brings up regulating agencies in ascending order starting with the matching character you enter.

You may also enter data in the following optional fields:

*State Asgn ID* Enter a state assigned ID in the 10-character alphanumeric field to assign a state specific identification for the enforcement action record. Note that the value in the read-only Enforcement Action No. is the number that is reported to SDWIS/FED as the enforcement action identifier, not the value in State Asgn ID.

*Compliance Officer* Type the last name followed by a comma and then the first name or click on the **Go To** button to display a list of individuals. The Compliance Officer Selection List brings up the list matching the characters you enter. If an invalid name is typed, the selection list displays by default.

*Comments* Enter up to 200 characters of additional information about the enforcement action.

4. Click on the **OK** button to create the enforcement action and flow to the Enforcement Action Maintenance List. At this time, Enforcement Action No. is internally calculated. Enforcement Action No. is comprised of the Enforcement Action Fed Fiscal Year field (which is calculated from Status Date) and the External System No.
5. Select **File/Exit** to return to the *Enforcement* main menu.

The diagram illustrates the workflow for adding an enforcement action. It starts with the **SDWIS Enforcement** Main Window, which has a menu bar (File, Edit, Detail, Window, Help) and a menu (Enforcement Actions, Compliance Schedules, EN Schedules, Assistance Actions, Reports). An arrow points from the **Enforcement Actions** menu to the **Water System Search** dialog box. This dialog box contains fields for **Water System No.** (ND2926332), **System Name**, and **Principal County Served**, with **Search**, **Cancel**, and **Help** buttons. Another arrow points from the **Water System Search** dialog to the **Enforcement Action - Add** form. This form is divided into several sections: **Water System** (No. ND2926332, Name CONGRESSIONAL), **Action Type** (E07, Name FED UNRESOLVED, Rpt to FED as: SIE), **Enforcement Action No.**, **State Asgn ID.**, **Regulating Agency** (STATE DEPARTMENT OF HEALTH), **Status** (Taken), **Compliance Officer**, **Status Date** (07/01/1999), **Comments**, **SDWIS/FED Data Origin** (State), and **Associated Violations** (a table with columns: No., Status, Vio. Type, Analyte, Analyte Name, Begin Date). At the bottom of the form are buttons for **Assign**, **Unassign**, **Schedule**, **OK**, and **Cancel**.

**Exhibit 8-1. Enforcement Action Add**

### ***Link the Enforcement Action to Its Underlying Violations***

This is an optional step. An enforcement action may be created without linking it to a violation.

1. From the Enforcement Action Maintenance window, click on the **Assign** button. This invokes the Violation Maintenance List, which contains a list of violations incurred by the specified water system.
2. Highlight one or more violations (this is a multiple-selection list).
3. Choose **Edit/Select** from the menu. The selected violations are now displayed in the Associated Violations list box on the Enforcement Action Maintenance window. Note that violations also may be added, changed, or deleted from the Violations Maintenance List window. See the “Violations Maintenance” section of the Monitoring and Noncompliance Determination chapter for instructions. Double-clicking on the highlighted violation invokes the Violation Maintenance window.
4. To disassociate a violation from an enforcement action, highlight it in the Associated Violations list box and click on the **Unassign** button in the Enforcement Action Maintenance window.

### ***Link the Enforcement Action to a Compliance Schedule***

This is an optional step. All enforcement actions, except a request to notify consumers (enforcement action of type SIE), can be linked to a compliance schedule. However, an enforcement action may be created without linking it to a compliance schedule.

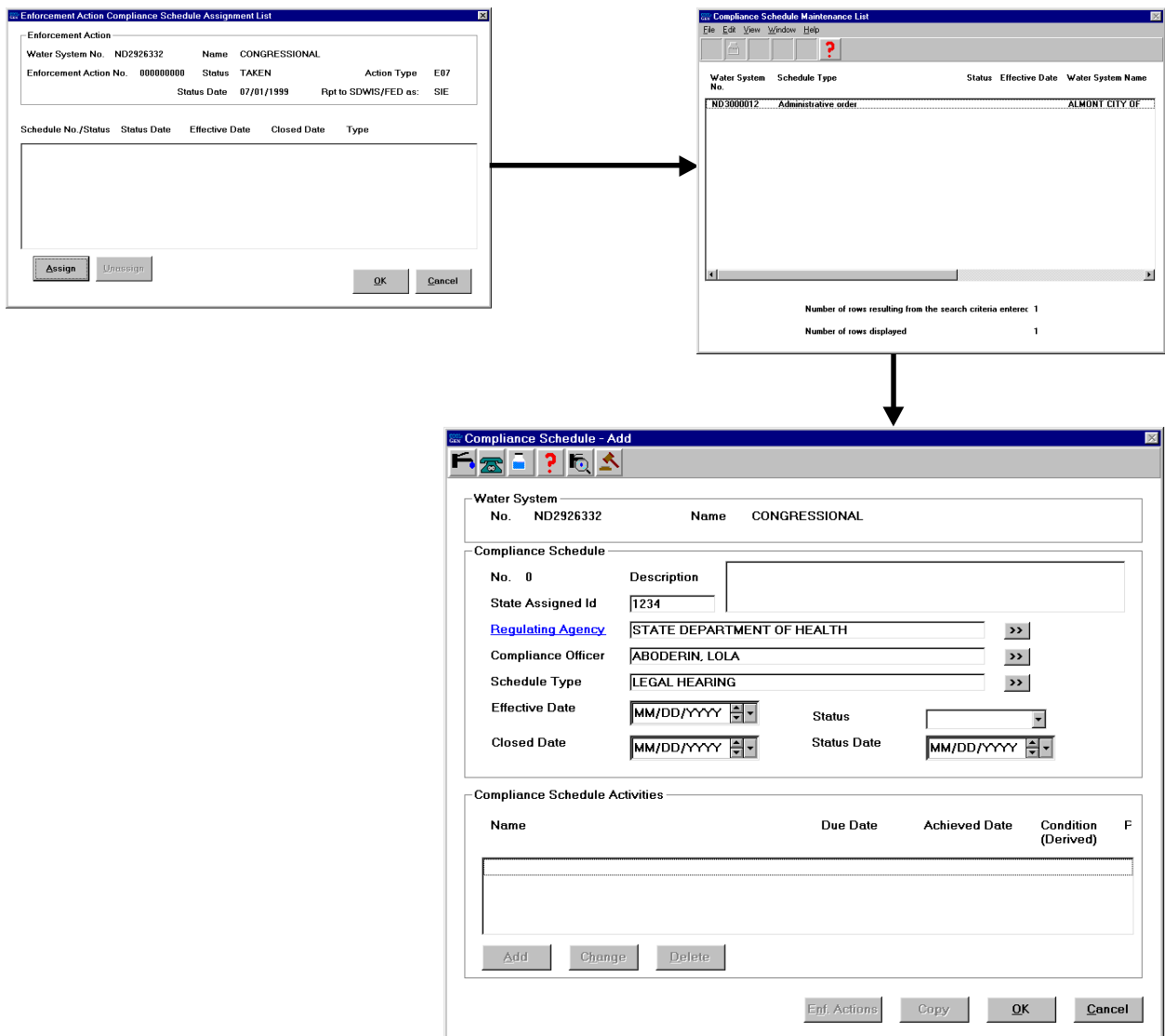
1. From the Enforcement Actions Maintenance window, press the **Schedule** button to display the Enforcement Action Compliance Schedule Assignment List (Exhibit 8-2).
2. Press the **Assign** button to display the Compliance Schedule Maintenance List featuring compliance schedules created for the specified water system.
3. Highlight one or more schedules (this is a multiple-selection list).

Although, generally there is either no compliance schedule or just one compliance schedule per enforcement action, there are some circumstances where more than one compliance schedule is associated to an enforcement action (e.g., a compliance schedule is superseded by a revised one).

4. Choose **Edit/Select** from the menu. The selected schedule(s) is displayed on the Enforcement Action Compliance Schedule Assignment List. Note that compliance schedules also may be added, changed, or deleted from the Compliance Schedule Maintenance List. See the “Compliance Sched-

ule Maintenance” section in this chapter for instructions. To disassociate a schedule from an enforcement action, highlight it on the Enforcement Action Compliance Schedule Assignment List and click the **Unassign** button.

5. Press the **OK** button on the Enforcement Action Compliance Schedule Assignment List to return to the Enforcement Action Maintenance window.



**Exhibit 8-2.** Linking an Enforcement Action to a Compliance Schedule

### ***Link the Enforcement Action to a Public Notification (PN) Schedule***

This is an optional step. An enforcement action of type SIE (state request to notify consumers) may be created without linking it to a PN schedule.

1. From the Enforcement Actions Maintenance window, press the **Schedule** button to invoke the PN Schedule Activity Maintenance List.
2. Click **Add** to flow to the PN Schedule Activity Maintenance window. Here you can add a PN activity to your current water system and then return to the PN Schedule Activity Maintenance List.
3. To change or delete a PN schedule, highlight it on the PN Schedule Activity Maintenance List and click on the **Change** or **Delete** button as necessary. You may notice a read-only field called Condition. Condition is valued based on the PN Required and PN Performed dates:
  - On time - PN Performed Date is before PN Required Date
  - Pending - PN Required Date is on/after Current Date
  - Late - PN Performed Date is after PN Required Date
  - Overdue - PN Required Date is before Current Date and PN Performed Date is blank
4. Press **OK** to save changes and return to the Enforcement Action Maintenance window.

### ***Change an Enforcement Action***

Perform the steps below to change an enforcement action.

1. Select **Edit/Enforcement Actions/Maintain** from the *Enforcement* main menu. The Enforcement Action Search window appears.
2. Specify the search criteria and click on the **Search** button.

If the search criteria are sufficient to specify a single water system, the application flows to the Enforcement Action Maintenance List window. You can retrieve a unique enforcement action by specifying Water System No. and Enforcement Action No. (Fed Fiscal Year and External System No.) in which case the application flows directly to the Enforcement Action Maintenance window. Note that the Status Date Range begin date is defaulted to current date minus 6 months. Press the **Cancel** button if you do not want this search criteria.

On the Enforcement Action Maintenance window, all fields except for Enforcement Action No. and Action Type can be changed.

3. Press the **OK** button on the Enforcement Action Maintenance window to save your changes and any links to violations, compliance schedules, and PN schedules and to flow back to the Enforcement Action Maintenance List.

4. Select **File/Exit** to return to the *Enforcement* main menu.

### **Delete an Enforcement Action**

Perform the steps below to delete an enforcement action.

1. Select **Edit/Enforcement Action/Maintain** from the *Enforcement* main menu. The Enforcement Action Search window appears.
2. Specify the search criteria and click on the **Search** button.

If the search criteria are sufficient to specify a single water system, the application flows to the Enforcement Action Maintenance List window. You can retrieve a unique enforcement action by specifying Water System No. and Enforcement Action No. (Fed Fiscal Year and External System No.).

3. Highlight the enforcement action that needs to be deleted, and then select **Edit/Delete**.
4. The Confirm Enforcement Action Delete dialog box is displayed. To confirm and execute the delete action, click on **Yes**; to cancel, click on **No**. The application returns to the Enforcement Action Maintenance List. If the enforcement action is linked to one or more violations and/or compliance schedules, a second confirmation message appears. The Confirm Enforcement Action Association Delete dialog box confirms that your enforcement action is linked to either violations, compliance schedules, or both. Pressing **Yes** actually deletes the action. Click on **Yes** to execute the action or on **No** to cancel.

### **Compliance Schedule Maintenance**

Primacy agencies routinely establish compliance schedules that public water system owners/operators must follow. These schedules are established through a variety of tools including, but not limited to, administrative orders, bilateral compliance agreements, and regulations. The **Compliance Schedule** function enables users to record and track compliance with these schedules. Compliance schedules are maintained by adding, changing, or deleting compliance schedules and/or their underlying scheduled activities. Compliance schedules can be related to the enforcement action that is the basis for the compliance schedule (e.g., administrative order without penalty—SFL).

New compliance schedules can be added in two different ways. The first way follows the standard method for adding any data to SDWIS/STATE—enter every piece of data pertaining to the Compliance Schedule and its underlying activities using the online windows. The second way is to select a similar existing compliance schedule, make a copy of it, assign it to the appropriate water system and then make the minor changes (like due dates, etc.) that are appropriate. This second method is useful when the primacy agency has issued virtually the same compliance schedule to several PWSs at the same time or uses the same basic compliance schedule routinely.

The first method is described under this chapter's section entitled Add a Compliance Schedule. The section entitled Copy a Compliance Schedule describes the second method.

### ***Add a Compliance Schedule***

Perform the steps below to add a compliance schedule.

1. Select **Edit/Compliance Schedules/Add** from the *Enforcement* main menu. The Water System Search dialog box appears.
2. From the Compliance Schedule Maintenance window, enter data in the following mandatory fields:

*Regulating Agency*      Enter the name of the regulating agency or click on the **Go To** button to display a list of regulating agencies. If you enter an invalid agency, the Regulating Agency Selection List appears. The government agency that is marked as the primacy agency in SDWIS/STATE appears in the Regulating Agency field, by default. The application defaults to the primacy agency. If another agency took the action, you can enter the name of the regulating agency or click on the **Go To** button to display a list of agencies. If you enter an invalid agency, the selection list displays. The Regulating Agency Selection List brings up regulating agencies in ascending order starting with the matching character you enter.

You may enter data in the following optional fields:

*Description*              Enter up to 200 characters of additional information about the compliance schedule.

*State Assigned ID No.*   Enter up to a 10-character alphanumeric value to identify the compliance schedule.

*Compliance Officer*    Type the name (last name, first name) or click on the **Go To** button to display a list of compliance officers. Enter one or more characters to constrain the selection list.

*Schedule Type*           Enter schedule type or click on the **Go To** button to display the Code Permitted Value Selection List. Entering a schedule type that does not exist in the database invokes the selection list. If the schedule type you need is not in the database, ask your SDWIS/STATE Administrator to add it to Code "TENSCHD1", using the Permitted Values menu item in the *System Administration* component.

*Effective Date*           Enter the date on which the compliance schedule went into effect.



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<i>Closed Date</i>	Enter the date on which the schedule was closed out or otherwise no longer in effect.
<i>Status</i>	Designate the compliance schedule as Final, Proposed, or Superseded.
<i>Status Date</i>	Enter the date of the last status update for the compliance schedule.

3. Click **OK** to accept the data you entered and create the compliance schedule in the database, which then activates the **Add** button in the Compliance Schedule Activities group box so that you can add activities for the newly created Compliance Schedule. If you select **Add**, then follow the procedures given in this chapter's section entitled Add Compliance Schedule Activities.
4. If you do not want to add activities until later, or have finished adding the activities and wish to save the data and exit, press the **OK** button again on the Compliance Schedule Maintenance window. The application flows to the Compliance Schedule Maintenance List.
5. Select **File/Exit** to return to the *Enforcement* main menu.

### ***Change or Delete a Compliance Schedule***

Perform the steps below to maintain a compliance schedule.

1. Choose **Edit/Compliance Schedules/Maintain** from the *Enforcement* main menu. The Compliance Schedule Search window is displayed. This window allows you to search for a particular compliance schedule or a set of schedules by several types of criteria. You may choose to search by water system, by compliance officer and/or regulating agency, or by status and/or status date range.
2. Click on **Search** to begin searching for the compliance schedule based on the criteria you selected. If the search criteria do not specify a single compliance schedule or a set of schedules, the application flows to the Compliance Schedule Maintenance List.

Select a compliance schedule by highlighting a row and choose **Edit/Change** or double-click on the row. The application flows to the Compliance Schedule Maintenance window in the change mode (Exhibit 8-3).

3. Select a compliance schedule on the Compliance Schedule Maintenance List by highlighting a row and choose **Edit/Delete**. The Delete Compliance Schedule confirmation box is displayed. To confirm the delete action, click on **Yes**; to cancel, click on **No**. Your schedule disappears from the list.

**Compliance Schedule Search**

Please use any one search option

Search by Water System  
No.  >>

Search by Officer/Agency  
Compliance Officer  >>  
Regulating Agency  >>

Search by Status/Effective Date Range  
Schedule Status   
Between  And   
[Search] [Clear] [Cancel] [Help]

**Compliance Schedule Maintenance List**

Water System No.	Schedule Type	Status	Effective Date	Water System Name
ND1211226		P	07/31/1999	AMERROSE COMMUN
ND0501126		F	06/10/1999	ALL SEASONS WUA
ND1801056	Administrative order	P	06/01/1999	AGASSIZ WATER US
ND2700006		P	03/31/1999	ALEXANDER CITY OF
ND0100476	Legal Hearing	P	03/11/1999	WETTINGER CITY OF
ND1200001	Legal Hearing	F	03/08/1999	ABERDROMBE CITY
ND3411308	Legal Hearing	F	03/08/1999	ADM CORN PROCES
ND2711221	Legal Hearing	F	03/08/1999	ALEXANDER WATER
ND1801056	Administrative order	F	02/28/1999	AGASSIZ WATER US

Number of rows resulting from the search criteria entered: 36  
Number of rows displayed: 9

**Compliance Schedule Maintenance - Change**

Water System  
No. ND1801056 Name AGASSIZ WATER USERS INC

Compliance Schedule  
No. 8 Description   
State Asgn ID No. ROB4  
[Regulating Agency](#) STATE DEPARTMENT OF HEALTH >>  
Compliance Officer BABOOTA, DEEPIKA >>  
Schedule Type ADMINISTRATIVE ORDER >>  
Effective Date 02/28/1999 Status Final  
Closed Date MM/DD/YYYY Status Date 03/01/1999

Compliance Schedule Activities

Name	Due Date	Achieved Date	Condition (Derived)	F
<input type="text"/>				

[Add] [Change] [Delete]

[Inf. Actions] [Copy] [OK] [Cancel]

**Exhibit 8-3.** Retrieving a Compliance Schedule

## *Add Compliance Schedule Activities*

Perform the steps below to add compliance schedule activities.

1. From the Compliance Schedule Maintenance window, click on the **Add** button to flow to the Compliance Schedule Activity Maintenance window.
2. You must enter a name for the compliance schedule activity, or select one from the Activity Type Selection List, which is accessed by clicking on the **Go To** button.
3. You may enter data in the following optional fields:

*Due Date* Enter the date the compliance schedule activity is expected to be complete.

<i>Achieved Date</i>	Enter the date the activity is completed.
<i>Reported Date</i>	Enter the date that completion was reported by the public water system to the primacy agency.
<i>Projected Date</i>	Enter the projected completion date of the activity. This could be used in a situation where the public water system owner did not meet the original Due Date but has indicated another date by which the activity should be complete but you want to keep track of the original due date.
<i>Responsible Party</i>	Enter the person or party responsible for accomplishing the scheduled activity (the responsible party can be generic, e.g., public water system owner; or specific, e.g., a person's name).
<i>Comment</i>	Enter comments related to the compliance schedule activity.

Note that the Condition field displays the current status of the activity, such as Overdue, On Time, Pending, or Late, and is based on a comparison of the due date (the date the compliance schedule activity is expected to be complete) and the achieved date (the date that the compliance schedule activity is completed). (See the section in this chapter on linking the enforcement action to a Public Notification (PN) Schedule for information on "Condition.")

4. Click on the **Add New Activity** button to clear the fields on the window so that you may enter a new activity.
5. Press **OK** on the Compliance Schedule Activity Maintenance window to save the schedule activity and to flow back to the Compliance Schedule Maintenance window.
6. Click on the **Enf. Action** button to link the newly created compliance schedule to an enforcement action (see this chapter's section entitled Link the Compliance Schedule to Enforcement Action Activities) or click on the **OK** button on the Compliance Schedule Maintenance window to exit. The application flows to the Compliance Schedule Maintenance List window.
7. Select **File/Exit** to return to the *Enforcement* main menu.

### ***Copy a Compliance Schedule***

Perform the steps below to copy a compliance schedule.

1. With the desired Compliance Schedule displayed in the Compliance Schedule Maintenance window, click on **Copy**. This button creates a copy of the selected compliance schedule and its underlying scheduled activities without relating it to a water system. This button also causes the application to flow to the Water System Search window. Enter or select a water system.

2. The Copy Confirm dialog box appears asking you if you want to proceed with the copy. Click **Yes** to copy the compliance schedule and **OK** to complete the transaction. The new schedule is displayed on the Compliance Schedule Maintenance List.

### ***Link the Compliance Schedule to Enforcement Action Activities***

Perform the steps below to link a compliance schedule to enforcement action activities.

1. After you retrieve your schedule (to link it to an enforcement action) click on the **Enf. Action** button in the Compliance Schedule Maintenance window. The application flows to the Enforcement Action Search window. Enter search criteria in the search window and click on **Search**. The application flows to the Enforcement Action Maintenance List.
2. Highlight an enforcement action in the list window. The associated violations and schedules appear in list boxes at the bottom of the screen. Once you highlight the enforcement action you want to link, double-click on it or choose **Edit/Select** from the menu. The application makes the association and returns to the Compliance Schedule Maintenance window.

### **Public Notification (PN) Schedule Maintenance**

All public notification activities that need to be carried out by the water system in response to a violation may be tracked through PN schedule maintenance. In the SDWIS/STATE model, PN schedules required under the PN rule must be associated with enforcement action records of type SIE (state request to notify consumers).

Note, however, that public notification activities required by an administrative order or some other formal enforcement process can be tracked as part of a compliance schedule and are not associated to SIE enforcement actions.

Adding a new PN Schedule requires first having an SIE enforcement action in place.

PN schedules may be created in one of two ways: (1) choose **Edit/Enforcement Actions/Maintain** from the *Enforcement* main menu and then see this chapter's section entitled Link the Enforcement Action to a PN Schedule; or (2) apply a standard response from within the **Violations** component in the *Monitoring and Noncompliance* component. Choose **Edit/Violations/Maintain** and then see the section entitled Assign a Standard Response to a Violation in the Monitoring and Noncompliance Determination chapter in this guide.

PN schedule activities may be updated (changed) or deleted in one of two ways. The primary way for updating PN activities is to choose **Edit/PN Schedules/Maintain** from the *Enforcement* main menu and then see this chapter's section entitled Change a PN Schedule Activity Using the PN Schedule Component. The second method for updating or deleting a PN activity is to choose **Edit/Enforcement Actions/Maintain** from the *Enforcement* main menu and then see this chapter's section entitled Link the Enforcement Action to a PN Schedule.

Note that under **Edit/PN Schedules** you cannot add a new PN Schedule, only maintain existing ones.

In the unusual circumstance where a PN Schedule exists but is not linked to a violation, choose **Edit/Enforcement Actions/Maintain** to maintain the PN schedule (see this chapter's section entitled Link the Enforcement Action to a PN Schedule).

### ***Add a PN Schedule by Applying a Standard Response***

From the *Monitoring and Noncompliance Determination* main menu choose **Edit/Violations/Maintain** and then see the section entitled Assign a Standard Response to a Violation. Select a Standard Response that has an SIE Action Type associated with it. (You can see the Action Type by clicking on the **Show Details** button in the Standard Response Selection List). Applying a Standard Response that has an SIE Action Type creates a PN Schedule with the associated schedule activities in the list and associate it to the SIE Enforcement Action and Violation to which the Standard Response is applied. Please review this section of the User's Guide for instructions on using this timesaving method.

### ***Add a PN Schedule from within Enforcement Action Maintenance***

1. From the SIE Enforcement Action Maintenance window, click on the **Schedule** button. The application flows to the PN Schedule Activity Maintenance List. Click **Add**. The activity flows to the PN Schedule Activity Maintenance window.
2. On the PN Schedule Activity Maintenance window, enter the name of the desired activity in the mandatory Name field or click on the **Go To** button to select a name from the Activity Type Selection List. (Activity Types are maintained by the SDWIS/STATE Administrator—if a desired Activity Type does not exist, request that your SDWIS/STATE Administrator add the Activity Type.)
3. Enter data in the following optional fields:

*PN Required Date*                      Enter the date the PN schedule activity is expected to be completed.

*PN Performed Date*                      Enter the date the activity is completed.

*Proof of PN Due Date*                      Enter the date the proof of public notification is due.

*Proof of PN Received Date* Enter the date the proof of public notification was received.

*Responsible Party*                      Enter a responsible party for the person or party responsible for accomplishing the scheduled activity. The responsible party can be generic (e.g., public water system owner) or specific (e.g., a person's name).

Note that the system displays a status Condition for the activity (i.e., overdue, on time, pending, or late) depending on the PN Required Date and the PN Performed Date. (See the section in this chapter on linking the Enforcement Action to a Public Notification (PN) Schedule for information on “Condition.”)

You can cycle through all activities associated with the PN schedule by clicking on the **Previous** and **Next** buttons.

4. To add comments to the PN schedule activity, click on the **Comments** button. The application flows to the PN Schedule Activity Comments dialog box.
5. Click on **OK** to accept the changes and return to the PN Schedule Activity Maintenance List.

### ***Change a PN Schedule Activity from within PN Schedules Maintenance***

1. To change an existing PN Schedule, first search for and select the desired schedule. Choose **Edit/PN Schedules/Maintain** from the *Enforcement* main menu. The PN Schedule Search window appears (Exhibit 8-4). Specify the search criteria and click on the **Search** button. If the search criteria are sufficient to specify a single PN schedule, the application flows directly to the PN Schedule Activity Maintenance window. The specified water system is displayed at the top of this window. If the search criteria do not specify a single PN schedule or even if no search criteria are entered, click on the **Search** button. The PN Schedule Maintenance List is displayed.
2. To select the desired PN Schedule, highlight the violation or one of the violations addressed by the PN schedule and then choose **Edit/Change PN Schedule Activity** or double-click on the row. The application then flows to the PN Schedule Activity Maintenance List. This window displays the enforcement action and lists all violations associated with PN schedule activities.
3. Highlight a PN schedule activity in the PN Schedule Activity Maintenance List and click on the **Change** button or double-click the row. The PN Schedule Activity Maintenance window is displayed. Change the activity name and/or associated dates as necessary. From this window you may add, change, or delete PN schedule activities.
4. Press **OK** to save the criteria you have entered. The application flows to the PN Schedule Activity Maintenance List.
5. Select **File/Exit** to return to the *Enforcement* main menu.

### **Assistance Action Maintenance**

Primacy agencies provide assistance to public water system owners/operators in a number of ways. Assistance actions, as designed in SDWIS/STATE, means preventive actions, i.e., actions that are taken to prevent violations rather than actions taken in response to violations. Therefore, the **Assistance Actions** menu item does not provide for the association of an assistance action to a violation. Actions

**PN Schedule Search**

Please use any one search option

Search by Violation

Water System No.  >>

No.

SIE Enforcement Action Status Date Range

Status

Between  And

**PN Schedule Maintenance List**

Violations Associated to PN Schedules

Enforcement Action Status	Enforcement Action Status Date	Violation No.	Violation Status	Violation Type	Analyte Code	Compliance Period Begin Date	Compliance Period End Date	Water No.
V	08/06/1999	1999 00001	V	01	0100	07/23/1999	07/23/1999	ND341
T	08/21/1999	1999 00024	V	41	0100	07/09/1999	08/08/1999	ND013
T	08/21/1999	1999 00056	V	03	0100	07/07/1999	07/08/1999	ND290
T	08/21/1999	1999 00056	V	03	0100	07/07/1999	07/08/1999	ND290
T	08/21/1999	1999 00056	V	03	0100	07/07/1999	07/08/1999	ND290
T	08/21/1999	1999 00056	V	03	0100	07/07/1999	07/08/1999	ND290
T	08/21/1999	1999 00056	V	03	0100	07/07/1999	07/08/1999	ND290
T	08/21/1999	1999 00001	V	P1	1002	05/13/1999	05/14/1999	ND271
T	03/21/1999	1999 00001	V	06	3100	03/07/1999	03/07/1999	ND010
T	03/26/1999	1999 00001	V	21	3100	02/01/1999	02/28/1999	ND011
T	08/21/1999	1999 00003	V	03	0100	02/01/1999	02/28/1999	ND011
T	03/16/1999	1999 00001	V	21	TEST	04/01/1999	06/30/1999	ND451
T	03/25/1999	1999 00001	V	21	3100	04/01/1999	06/30/1999	ND251
T	03/25/1999	1999 00025	V	01	0100	04/01/1999	04/30/1999	ND010
T	03/25/1999	1999 00025	V	01	0100	04/01/1999	04/30/1999	ND010
T	03/25/1999	1999 00032	V	01	INDG	03/01/1999	03/31/1999	ND010
T	06/21/1999	1999 00053	V	01	0100	01/01/1999	01/31/1999	ND290
T	08/10/1999	1999 00027	V	01	0100	05/01/1997	05/30/1997	ND271
T	08/10/1999	1999 00003	V	03	VOC	05/01/1997	05/30/1997	ND026
T	07/30/1999	1999 00002	V	01	0100	08/01/1997	08/31/1997	ND121
T	07/30/1999	1999 00002	V	01	0100	08/01/1997	08/31/1997	ND121
T	08/27/1999	1999 00029	V	03	0100	05/01/1997	05/31/1997	ND290

Number of rows resulting from the search criteria entered: 40  
Number of rows displayed: 153

**PN Schedule Activity Maintenance List**

Water System

No. ND3900001 Name ABERCROMBIE CITY OF

Enforcement Action

No. 1999 228

Action Type S I E

Report to SDWIS/FED as

Status Taken

Status Date 08/23/1999

Associated Violations

No.	Status	Vio. Type	Analyte Code	Compliance Period Begin Date	Compliance Period End Date
1999 59	V	03	0100	05/01/1997	05/31/1997
1999 56	V	03	0100	07/07/1999	07/08/1999

PN Schedule Activities

Activity Name	PN Required Date	PN Performed Date	Proof of PN Due Date	Proof of PN Received Date
TEST24	08/29/1999		08/19/1999	

Exhibit 8-4. PN Schedule Activity Maintenance

taken in response to or associated with a violation should be entered using the *Enforcement* component. If you want to add an assistance action, the SDWIS/STATE Administrator must create a corresponding action type. See the section on Action Types under Enforcement Support in the System Administration Guide.

### Add an Assistance Action

Perform the steps below to add an assistance action.

1. To add an assistance action, select **Edit/Assistance Actions/Add** from the *Enforcement* main menu. The Assistance Action Maintenance window is displayed.
2. Enter information in three mandatory fields in the Assistance Action Maintenance window:

*Entity*                      The default entity is the government agency marked as the primacy agency. If another entity is desired, then type the name of the entity or click on the **Go To** button to access a list of entities. The list of entities is limited to government agencies.

*Action Type*              Type the three-character action type or click on the **Go To** button to access a list of action types.

*Status*                      Enter a status of Proposed, Offered but Rejected, or Completed. You may choose the status code from a dropdown list. The default is Completed.

You may enter data in the following optional fields:

*St Assigned ID No.* Type the alphanumeric value you want to use to identify the assistance action.

*Individual*                Type the name of the individual who provided the assistance by entering the individual's last name first, followed by a comma and then the individual's first name or click on the **Go To** button to access a list of individuals to assign to an assistance action.

*Status Date*              Enter the date of the last status update for the assistance action.

3. Click on the **Comments** button. The application flows to the Assistance Action Comments dialog box that allows you to enter narrative information about assistance actions.
4. Click on the **Assign Water System** button. The application flows to the Multiple Water Selection List window.

Note that the Multiple Water System Selection List provides a list of valid water system names from which you may select one or more. However, only 1,000 water systems can be displayed in this list. To search through all of the water systems, including those not displayed in this window, click on the **Search** button to access the Multiple Water System Search window.

5. Highlight one or more water system and click on the **Select** button. The application flows to the Assistance Action Maintenance window.
6. Click on the **OK** button to save and link the assistance action record with the water systems you selected. The application flows to the Assistance Action Maintenance List.

### ***Change an Assistance Action***

Perform the steps below to change an assistance action.

1. To change an assistance action, select **Edit/Assistance Actions/Maintain** from the *Enforcement* main menu. The Assistance Action Search window is displayed.



2. You can search for assistance actions associated with a water system either by water system or by action type/status and status date range. Click on the **Search** button to begin searching for assistance actions associated with a water system or action type/status and status date range.
3. If the search criteria are sufficient to specify a single assistance action, the application flows to the Assistance Action Maintenance window.

If the search criteria do not specify a single assistance action or even if no search criteria are entered, click on the **Search** button. The Assistance Action Maintenance List is displayed.

4. Highlight and click on an assistance action in the list. The associated water systems appear in the box below.
5. Double-click on the assistance action. The application flows to the Assistance Action Maintenance window. In the maintenance window, the assistance action fields can be changed and/or new water systems assigned and existing ones unassigned with a click of the **Assign Water System** and **Unassign Water System** buttons.
6. Press **OK** to save the assistance action and links to any water system(s). The application flows to the Assistance Action Maintenance List window.

## Reports Maintenance

Reports are maintained in an MS Access database that links to SDWIS/STATE's Oracle tables. This database consists of queries, forms, and reports necessary to produce the Annual Compliance Report and the Compliance Schedule Report, as well as a menu system to simplify the entry of criteria necessary to produce the reports.

### *Generate the Annual Compliance Report*

The Annual Compliance Report is based on the report format developed by EPA's office of Enforcement and Compliance Assurance (OECA). This report generates the data needed for the annual report required by EPA from the primacy agency. However, you can generate reports summarizing compliance for other time periods (e.g., monthly, quarterly, biannually).

For each water system that had a violation during the specified reporting interval (that is, whose inclusive Violation Compliance Period fell within the reporting interval), the report lists each violation by:

- Water System ID, Name, and Principal County Served.
- Analyze Code and Name.
- Violation Type and Compliance Period.
- Total number of violations during the specified reporting interval for the water system.

In addition, the end of the report contains two summary numbers:

- The total number of water systems that had a violation during the specified reporting interval.
  - The total number of violations that occurred across all water systems during the specified reporting interval.
1. Select **Edit/Reports** from the *Enforcement* main menu. The application flows to the opening screen of the Reports menu.
  2. Click on the **Annual Compliance Report** button. The application flows to the Annual Compliance Report Selection Criteria window.
  3. Enter a date range and click **OK** to accept the criteria. The application flows to a close-up view of the report. (In the Logon To Oracle dialog box, enter MSACCESS for User Name and Password.)
  4. Click in the middle of the screen to preview the Annual Compliance Report.
  5. Select **File/Print** to print the report (Exhibit 8-5).
  6. Select **File/Exit** to return to the *Enforcement* main menu.

Annual Compliance Detail Report							
Water System ID	Water System Name	Analyte Code	Analyte Name	Type	Compliance Period		County
IL1617726	11 TH STREET A WELL	3100	COLIFORM, TOTAL (TCR)	21	04/01/1997	04/30/1997	
IL1617726	11 TH STREET A WELL	0100	TURBIDITY	02	08/01/1998	08/31/1998	
Total Number of Violations for This Water		2					
IL0950050	ABINGDON	1002	ALUMINUM	04	12/01/1999	12/31/1999	KNOX
Total Number of Violations for This Water		1					
IL0015150 04/30/1997	ADAMS CNTY WATER DISTRICT #1 ADAMS	3100	COLIFORM, TOTAL (TCR)	21	04/01/1997		
Total Number of Violations for This Water		1					
IL1030050	AMBOY			22	12/01/1997	12/31/1997	LEE
IL1030050	AMBOY			23	11/01/1997	11/30/1997	LEE
IL1030050	AMBOY	3100	COLIFORM, TOTAL (TCR)	21	12/01/1997	12/31/1997	LEE
Total Number of Violations for This Water		3					

**Exhibit 8-5.** Example of an Annual Compliance Report

## *Generate the Compliance Schedule Report*

The Compliance Schedule Report shows public water systems that, based on the specified criteria, have met, missed, or are approaching schedule deadlines. This report helps compliance officers to identify which water system owners comply with schedules set by the primacy agency. The report includes the Compliance Schedule by Water System, its enforcement action, and details of any violations associated with the enforcement action.

- The Compliance Schedule column identifies the schedule by number, type, effective date and status.
- The Enforcement Action column identifies the enforcement action by number, type, status, and status date.
- Violation Details show the violation number, type, determination date, compliance period, and analyze code for any violations associated with the listed enforcement action.
- Compliance Schedule Activities (for the compliance schedule) listed by name, due date, reported date, projected date, and achieved date, condition, responsible party, and comments.

Finally, if your report criteria specified more than one water system, the report presents the number of water systems in violation (which have a compliance schedule) that met your search criteria.

1. Select **Edit/Reports** from the *Enforcement* main menu. The application flows to the opening screen of the Reports menu.
2. Click on the **Compliance Schedule Report** button. The application flows to the Compliance Schedule Report Selection Criteria window. (In the Logon To Oracle dialog box, enter MSACCESS for User Name and Password.)
3. Select the following types of criteria to appear on the report: the water system number or water system name of a specific water system, and a compliance officer and/or regulating agency that has established compliance schedules.

Select one or more status criteria to define the compliance schedules that appear on the report, including final, superseded, proposed, open, or closed. If you click on **Check All** for Schedule Status, all compliance schedules for the selected water system, office/agency, and/or effective date range will appear on the report, regardless of their status.

Select one or more status conditions for compliance schedule activities that appear on the report, including overdue, pending, late, or on time. If you click on **Check All** for Activity Condition, all the compliance schedule activities for the selected compliance schedules will appear on the report, regardless of their condition.

4. Click **OK** to accept the criteria. The application flows to the Compliance Schedule Report Sorting Criteria window.
5. Sort by one, two, or three criteria from the following dropdown list: Compliance Schedule No., Compliance Schedule Type, Effective Date, Water System Name, and Water System No.
6. Click on the **OK** button to accept the criteria. The application flows to a close-up view of the report.
7. Click in the middle of the screen to print preview.
8. Select **File/Print** to print the report (Exhibit 8-6).
9. Select **File/Exit** to return to the *Enforcement* main menu.

Compliance Schedule Report									
IL1617726 - 11TH STREET A WELL									
Compliance Schedule		Enforcement Action							
No:	1	No:	2000 3						
Type:	AO	Type:	SFG						
Effective Date:	11/01/1999	Status Date:	11/30/1999						
Status:	F	Schedule Status:	Open						
		Violation Details							
No.	Analyte	Type	Compliance Period		Determination Date				
2000 1	3100	21	04/01/1997 04/30/1997		11/04/19				
2000 2	0100	02	08/01/1998 08/31/1998		11/30/19				
Activity	Due Date	Achieved Date	Reported Date	Projected Date	Condition	Responsible Party	Comments		
HAND DELIVER/CONTINUOUSLY POST NOTICE	01/07/2000	//	//	//	Overdue				
MAIL/HAND DELIVER NOTICE TO CONSUMERS	01/06/2000	01/07/2000	//	//	Late				

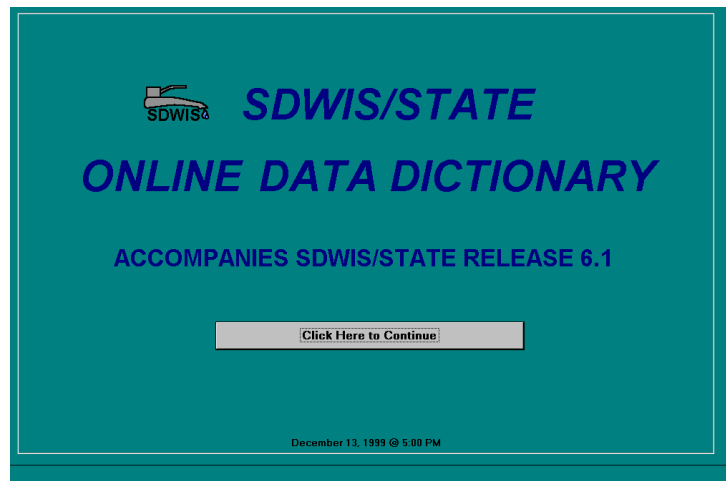
**Exhibit 8-6.** Example of a Compliance Schedule Report



Chapter 9 documents the design and ongoing data requirements associated with each release of the SDWIS/STATE *Online Data Dictionary*.

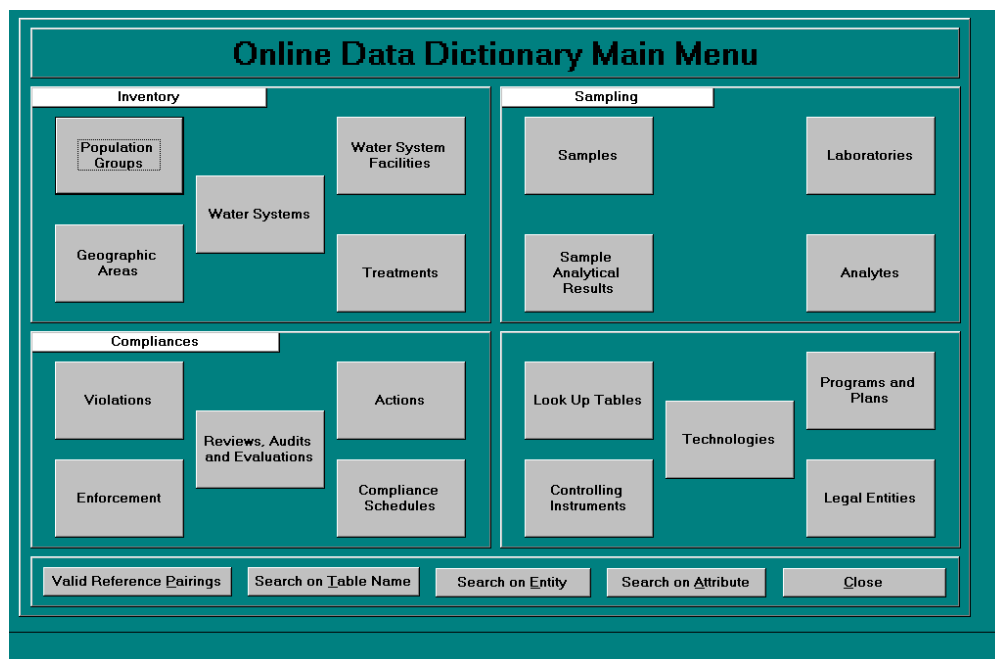
## General Functionality

When the user invokes the Online Data Dictionary icon, the following welcome window appears:



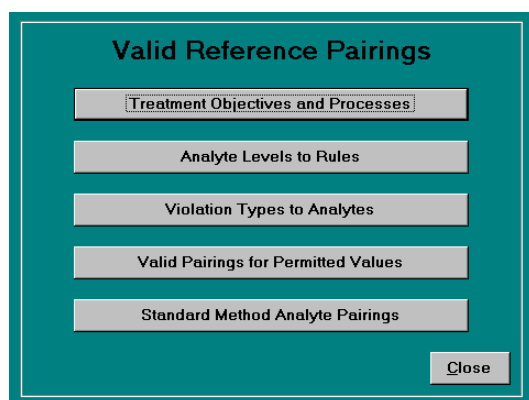
**Exhibit 9-1.** Online Data Dictionary Welcome Window

Pressing the **Click Here to Continue** button invokes the *Online Data Dictionary* main menu.



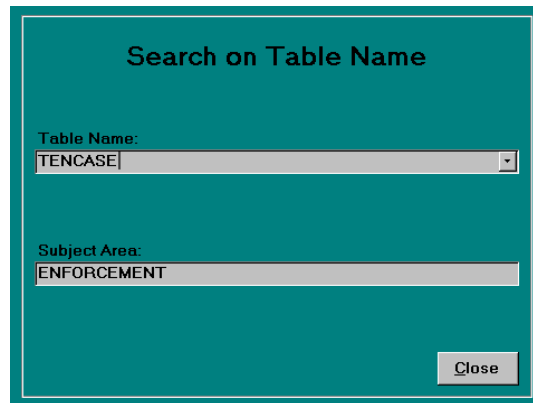
**Exhibit 9-2.** Online Data Dictionary Main Menu

Click on the **Valid Reference Pairings** button to invoke the Valid Reference Pairings window below (Exhibit 9-3).



**Exhibit 9-3.** Valid Reference Pairings

Click on the **Search on Table Name** button to invoke the Table Name Search window, where you can search by table name and corresponding subject area (Exhibit 9-4).



**Search on Table Name**

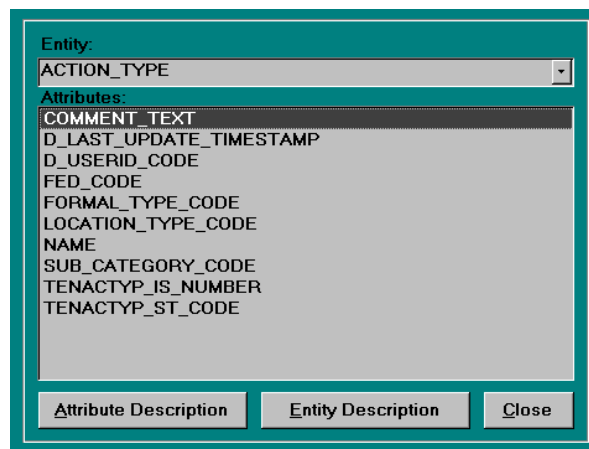
Table Name:  
TENCASE

Subject Area:  
ENFORCEMENT

Close

**Exhibit 9-4.** Table Name Search

Click on the **Search on Entity** button to invoke the Entity Search window (Exhibit 9-5). By selecting an Entity and an Attribute in this box, a description of either may be viewed.



**Entity Search**

Entity:  
ACTION\_TYPE

Attributes:  
COMMENT\_TEXT  
D\_LAST\_UPDATE\_TIMESTAMP  
D\_USERID\_CODE  
FED\_CODE  
FORMAL\_TYPE\_CODE  
LOCATION\_TYPE\_CODE  
NAME  
SUB\_CATEGORY\_CODE  
TENACTYP\_IS\_NUMBER  
TENACTYP\_ST\_CODE

Attribute Description    Entity Description    Close

**Exhibit 9-5.** Entity Search

Click on the **Search on Attribute Button** to invoke the Attribute Search window (Exhibit 9-6). By selecting an Attribute and an Entity in this box, a description of either may be viewed.

**Exhibit 9-6.** Attribute Search

In the Valid Reference Pairings window, click on the **Treatment Objectives and Processes** button invokes the Treatment Objectives and Processes search window (Exhibit 9-7). You can use standard MS Access sorting buttons to sort the data in any column.

Treatment Objectives and Processes			
Treatment Objective Code	Treatment Objective Name	Treatment Process Code	Treatment Process Name
B	DISINFECTION BY-PRODUCTS CONTR	143	AERATION, DIFFUSED
B	DISINFECTION BY-PRODUCTS CONTR	360	FLOCCULATION
B	DISINFECTION BY-PRODUCTS CONTR	345	FILTRATION, RAPID SAND
B	DISINFECTION BY-PRODUCTS CONTR	344	FILTRATION, PRESSURE SAND
B	DISINFECTION BY-PRODUCTS CONTR	240	COAGULATION
B	DISINFECTION BY-PRODUCTS CONTR	220	CHLORINE DIOXIDE
B	DISINFECTION BY-PRODUCTS CONTR	200	CHLORAMINES

Search
Close

**Exhibit 9-7.** Treatment Objectives and Processes

In a similar fashion, click on these buttons on the Valid Reference Pairings window to invoke the following windows:

**Button**

Search Window invoked

**Analyte Levels to Rules**

Analyte Levels to Rules

**Violation Types to Analytes**

Violation Types to Analytes

**Valid Pairings for Permitted Values**

Valid Pairings for Permitted Values

**Standard Method Analyte Pairings**

Standard Method Analyte Pairings



## Foreign Key Exceptions

For most foreign key descriptions, the standard phrase is: Source Table name embedded in foreign key name. This message tells you that this foreign key can be used to join the table in which the foreign key resides to the table whose name is embedded in the foreign key. This message is the default description for most foreign keys.

This standard phrase does not apply to what we call “foreign key exceptions.” In most—but by no means all—cases, these foreign key exceptions may appear to be a normal key. In other cases, the foreign key exception may appear to be a normal foreign key (e.g., TINLGENT\_IS\_NUMBER) but needs a special description because it actually points back to a different table than the one embedded in its name (in this case, TINGOVAG or TININDIV, but not TINLGENT as one might surmise). A list of foreign key exceptions appears on the following pages (Exhibit 9-8).

Table Name	Field Name	Definition
TENASACT	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENASACT and TINGOVAG.
TENASACT	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENASACT and TINGOVAG.
TENASACT	TINLGENT_IS_NUM1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENASACT and TININDIV.
TENASACT	TINLGENT_ST_CODE1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENASACT and TININDIV.
TENENACT	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENENACT and TINGOVAG.
TENENACT	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENENACT and TINGOVAG.
TENENACT	TINLGENT_ST_CODE1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENENACT and TININDIV.
TENENACT	TINLGENT_IS_NUM1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENENACT and TININDIV.
TENSCHD	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENSCHD and TINGOVAG.
TENSCHD	TINLGENT_ST_CODE1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENSCHD and TININDIV.
TENSCHD	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENSCHD and TINGOVAG.
TENSCHD	TINLGENT_IS_NUM1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENSCHD and TININDIV.
TENSTRSP	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENSTRSP and TINGOVAG.
TENSTRSP	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENSTRSP and TINGOVAG.
TENVISIT	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENVISIT and TINGOVAG.
TENVISIT	TINLGENT_IS_NUM1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENVISIT and TININDIV.
TENVISIT	TINLGENT_ST_CODE1	Source table is TININDIV, which is identified by TINLGENT. This key would be used to join TENVISIT and TININDIV.
TENVISIT	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TENVISIT and TINGOVAG.
TFRDEVIA	TINTRPRO0CODE	Source table is TINTRPRO. TINTRPRO is identified by TINTRPRO_CODE. This is used in the relationship that DEVIATION sometimes substitutes one D_TREATMENT_PROCESS.
TFRDEVIA	TINWSYS0IS_NUMBER	Source table is TMNSASCH. TMNSASCH is identified by TINWSYS_IS_NUMBER. This refers to the sample schedule's water system that is used in the relationship DEVIATION sometimes supersedes one SAMPLE_SCHEDULE. This foreign key should be used in a join of TMNSASCH and TFRDEVIA to retrieve water system for schedules that have been deviated using SDWIS/STATE'S MBS.

## Exhibit 9-8. Foreign Key Exception List

Table Name	Field Name	Definition
TFRDEVIA	TINWSYS0ST_CODE	Source table is TMNSASCH. TMNSASCH is identified by TINWSYS_ST_CODE. This refers to the sample schedule's water system that is used in the relationship DEVIATION sometimes supersedes one SAMPLE_SCHEDULE. This foreign key should be used in a join of TMNSASCH and TFRDEVIA to retrieve water system for schedules that have been deviated using SDWIS/STATE'S MBS.
TINGEOAR	TINGEOAR0IS_NUMBER	Source table is TINGEOAR, represents a geographic area that links to one or more geographic areas. For example, this field might contain the IS_NUMBER value of a geographic area of type 'CN' (county) to which a geographic area of type 'CT' (city) is linked. The user may wish to designate that the city (TINGEOAR_IS_NUMBER) has a principle county (TINGEOAR0IS_NUMBER).
TINGEOAR	TINGEOAR0ST_CODE	Source table is TINGEOAR, represents a geographic area that links to one or more geographic areas. For example, this field might contain the ST_CODE value of a geographic area of type 'CN' (county) to which a geographic area of type 'CT' (city) is linked. The user may wish to designate that the city (TINGEOAR_ST_CODE) has a principle county (TINGEOAR0ST_CODE).
TINIGAA	TINLGENT0ST_CODE	Source table is TININDIV. TININDIV is identified by TINLGENT_IS_NUMBER.
TINIGAA	TINLGENT0IS_NUMBER	Source table is TININDIV. TININDIV is identified by TINLGENT_IS_NUMBER.
TINIGAA	TINLGENT_IS_NUMBER	Source table is TINGOVAG. TINGOVAG is identified by TINLGENT_IS_NUMBER.
TINIGAA	TINLGENT_ST_CODE	Source table is TINGOVAG. TINGOVAG is identified by TINLGENT_IS_NUMBER.
TINUPF	TINWSF_ST_CODE	Source table is TINUNPRO. TINUNPRO is identified by TINWSF_ST_CODE. This represents the water system facility that identifies the receiving unit process and is used in the relationship UNIT_PROCESS_FLOW always is destined for one UNIT_PROCESS.
TINUPF	TINWSF0ST_CODE	Source table is TINUNPRO. TINUNPRO is identified by TINWSF_ST_CODE. This represents the water system facility that identifies the supplying unit process and is used in the relationship UNIT_PROCESS_FLOW always is supplied by one UNIT_PROCESS.
TINUPF	TINUNPRO0IS_NUMBER	Source table is TINUNPRO. TINUNPRO is identified by TINUNPRO_IS_NUMBER. This represents the supplying unit process and is used in the relationship UNIT_PROCESS_FLOW always is supplied by one UNIT_PROCESS.
TINUPF	TINUNPRO_IS_NUMBER	Source table is TINUNPRO. TINUNPRO is identified by TINUNPRO_IS_NUMBER. This represents the receiving unit process and is used in the relationship UNIT_PROCESS_FLOW always is destined for one UNIT_PROCESS.
TINUPF	TINWSF_IS_NUMBER	Source table is TINUNPRO. TINUNPRO is identified by TINWSF_IS_NUMBER. This represents the water system facility that identifies the receiving unit process and is used in the relationship UNIT_PROCESS_FLOW always is destined for one UNIT_PROCESS.
TINUPF	TINWSF0IS_NUMBER	Source table is TINUNPRO. TINUNPRO is identified by TINWSF_IS_NUMBER. This represents the water system facility that identifies the supplying unit process and is used in the relationship UNIT_PROCESS_FLOW always is supplied by one UNIT_PROCESS.
TINWPURC	TINWSF0ST_CODE	Source table is TINWSF. TINWSF is identified by TINWSF_ST_CODE. This represents the seller water system facility. This is used in the relationship WATER_PURCHASE sometimes is supplied to one WATER_SYSTEM_FACILITY.
TINWPURC	TINWSF0IS_NUMBER	Source table is TINWSF. TINWSF is identified by TINWSF_IS_NUMBER. This represents the seller water system facility. This is used in the relationship WATER_PURCHASE sometimes is supplied to one WATER_SYSTEM_FACILITY.

**Exhibit 9-8. Foreign Key Exception List (continued)**

Table Name	Field Name	Definition
TINWPURC	TINWSYS0IS_NUMBER	Source table is TINWSYS. TINWSYS is identified by TINWSYS_IS_NUMBER. This represents the seller water system. This is used in the relationship WATER_PURCHASE always is supplied by one WATER_SYSTEM.
TINWPURC	TINWSYS_IS_NUMBER	Source table is TINWSYS. TINWSYS is identified by TINWSYS_IS_NUMBER. This represents the purchaser water system. This is used in the relationship WATER_PURCHASE always is contracted by one WATER_SYSTEM.
TINWPURC	TINWSYS0ST_CODE	Source table is TINWSYS. TINWSYS is identified by TINWSYS_IS_NUMBER. This represents the seller water system. This is used in the relationship WATER_PURCHASE always is supplied by one WATER_SYSTEM.
TINWPURC	TINWSF_ST_CODE	Source table is TINWSF. TINWSF is identified by TINWSF_ST_CODE. This represents the purchaser water system facility. This is used in the relationship WATER_PURCHASE sometimes is supplied from one WATER_SYSTEM_FACILITY.
TINWPURC	TINWSF_IS_NUMBER	Source table is TINWSF. TINWSF is identified by TINWSF_IS_NUMBER. This represents the purchaser water system facility. This is used in the relationship WATER_PURCHASE sometimes is supplied from one WATER_SYSTEM_FACILITY.
TINWPURC	TINWSYS_ST_CODE	Source table is TINWSYS. TINWSYS is identified by TINWSYS_ST_CODE. This represents the purchaser water system. This is used in the relationship WATER_PURCHASE always is contracted by one WATER_SYSTEM.
TINWSFF	TINWSF_IS_NUMBER	Source table is TINWSF. TINWSF is identified by TINWSF_IS_NUMBER. This is used in the relationship WATER_SYS_FACILITY_FLOW always is destined for one WATER_SYSTEM_FACILITY. This represents the receiving water system facility.
TINWSFF	TINWSF_ST_CODE	Source table is TINWSF. TINWSF is identified by TINWSF_ST_CODE. This is used in the relationship WATER_SYS_FACILITY_FLOW always is destined for one WATER_SYSTEM_FACILITY. This represents the receiving water system facility.
TINWSFF	TINWSF0IS_NUMBER	Source table is TINWSF. TINWSF is identified by TINWSF_IS_NUMBER. This is used in the relationship WATER_SYS_FACILITY_FLOW always is supplied by one WATER_SYSTEM_FACILITY. This represents the supplying water system facility.
TINWSFF	TINWSF0ST_CODE	Source table is TINWSF. TINWSF is identified by TINWSF_ST_CODE. This is used in the relationship WATER_SYS_FACILITY_FLOW always is supplied by one WATER_SYSTEM_FACILITY. This represents the supplying water system facility.
TMNCOR	TMNCOR0IS_NUMBER	Source table is TMNCOR. TMNCOR is identified by TMNCOR_IS_NUMBER. This is used in the relationship CODE_OF_REGULATION sometimes is contained in one CODE_OF_REGULATION. Represents a CODE OF REGULATION that links to one or more CODE OF REGULATIONS. This relationship has not been implemented in SDWIS/STATE and therefore, this field is empty.
TMNCOR	TMNCOR0ST_CODE	Source table is TMNCOR. TMNCOR is identified by TMNCOR_ST_CODE. This is used in the relationship CODE_OF_REGULATION sometimes is contained in one CODE_OF_REGULATION. Represents a CODE OF REGULATION that links to one or more CODE OF REGULATIONS. This relationship has not been implemented in SDWIS/STATE and therefore, this field is empty.
TMNCOR	TMNRULE0ST_CODE	Source table is TMNCOR. TMNCOR is identified by TMNRULE_ST_CODE.. This is used in the relationship CODE_OF_REGULATION sometimes is contained in one CODE_OF_REGULATION. Represents a CODE OF REGULATION that links to one or more CODE OF REGULATIONS. This relationship has not been implemented in SDWIS/STATE and therefore, this field is empty.
TMNCOR	TMNRULE0IS_NUMBER	Source table is TMNCOR. TMNCOR is identified by TMNRULE_IS_NUMBER. This is used in the relationship CODE_OF_REGULATION sometimes is contained in one CODE_OF_REGULATION. Represents a CODE OF REGULATION that links to one or more CODE OF REGULATIONS. This relationship has not been implemented in SDWIS/STATE and therefore, this field is empty.

**Exhibit 9-8. Foreign Key Exception List (continued)**

Table Name	Field Name	Definition
TMNMNR	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TMNMNR and TINGOVAG.
TMNMNR	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TMNMNR and TINGOVAG.
TMNMNR	TMNRULE_IS_NUMBER	Source table is TMNCOR which is identified by TMNRULE. This key would not be used to join TMNMNR to TMNRULE.
TMNMNR	TMNRULE_ST_CODE	Source table is TMNCOR which is identified by TMNRULE. This key would not be used to join TMNMNR to TMNRULE.
TMNMNR	TMNRULE_ST_CODE1	Source table is TMNRULE. This key would be used to join TMNMNR to TMNRULE. (Do not use TMNRULE_ST_CODE to join TMNMNR and TMNRULE.)
TMNMNR	TMNRULE_IS_NUMBER1	Source table is TMNRULE. This key would be used to join TMNMNR to TMNRULE. (Do not use TMNRULE_IS_NUMBER to join TMNMNR and TMNRULE.)
TMNRSA	TMNRULE0IS_NUMBER	Source Table name is embedded in foreign key name.
TMNRSA	TMNRULE0ST_CODE	Source Table name is embedded in foreign key name.
TMNSAA	TMNSTAT0ST_CODE	Source Table name is embedded in foreign key name.
TMNSAA	TMNSTAT0IS_NUMBER	Source Table name is embedded in foreign key name.
TMNSAOPA	TINWSYS_IS_NUMBER	Source table is TMNSASCH. TMNSASCH is identified by TINWSYS_IS_NUMBER. This is used in the relationship SCHEDULE_AOP_ASGMT always is established for one SAMPLE_SCHEDULE. This represents the water system that identifies the sample schedule.
TMNSAOPA	TINWSYS0IS_NUMBER	Source table is TINAOPRD. TINAOPRD is identified by TINWSYS_IS_NUMBER. This is used in the relationship SCHEDULE_AOP_ASGMT always is established for one ANNUAL_OPERATING_PERIOD. This represents the water system that identifies the annual operating period.
TMNSAOPA	TINWSYS0ST_CODE	Source table is TINAOPRD. TINAOPRD is identified by TINWSYS_ST_CODE. This is used in the relationship SCHEDULE_AOP_ASGMT always is established for one ANNUAL_OPERATING_PERIOD. This represents the water system that identifies the annual operating period.
TMNSAOPA	TINWSYS_ST_CODE	Source table is TMNSASCH. TMNSASCH is identified by TINWSYS_ST_CODE. This is used in the relationship SCHEDULE_AOP_ASGMT always is established for one SAMPLE_SCHEDULE. This represents the water system that identifies the sample schedule.
TMNVIOL	TMNMPRD_ST_CODE1	Source table is TMNMPRD. This key would be used to join TMNVIOL and TMNMPRD. (Do not use TMNMPRD_ST_CODE to join TMNVIOL and TMNMPRD.)
TMNVIOL	TMNRULE_IS_NUM1	Source table is TMNRULE. This key would be used to join TMNVOIL and TMNRULE. (Do not use TMNRULE_IS_NUMBER to join TMNVOIL and TMNRULE.)
TMNVIOL	TMNRULE_ST_CODE1	Source table is TMNRULE. This key would be used to join TMNVOIL and TMNRULE. (Do not use TMNRULE_IS_NUMBER to join TMNVOIL and TMNRULE.)
TMNVIOL	TINWSYS_IS_NUMBER1	Source table is TMNSASCH, which is identified by TINWSYS. This key would not be used to join TMNVIOL to TINWSYS.
TMNVIOL	TMNMPRD_IS_NUMBER1	Source table is TMNMPRD. This key would be used to join TMNVIOL and TMNMPRD. (Do not use TMNMPRD_IS_NUMBER to join TMNVIOL and TMNMPRD.)
TMNVIOL	TMNRULE_ST_CODE	Source table is TMNRWSMA. This key would not be used to join TMNVIOL and TMNRULE.

**Exhibit 9-8. Foreign Key Exception List (continued)**

Table Name	Field Name	Definition
TMNVIOL	TINWSYS_IS_NUMBER0	Source table is TMNRWSMA, which is identified by TINWSYS. This key would not be used to join TMNVIOL to TINWSYS.
TMNVIOL	TMNMPRD_IS_NUMBER	Source table is TMNRWSMA. This key would not be used to join TMNVIOL and TMNMPRD.
TMNVIOL	TMNRULE_IS_NUMBER	Source table is TMNRWSMA. This key would not be used to join TMNVIOL and TMNRULE.
TMNVIOL	TINWSYS_ST_CODE1	Source table is TMNSASCH, which is identified by TINWSYS. This key would not be used to join TMNVIOL to TINWSYS.
TMNVIOL	TINLGENT_IS_NUMBER	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TMNVIOL and TINGOVAG.
TMNVIOL	TINLGENT_ST_CODE	Source table is TINGOVAG, which is identified by TINLGENT. This key would be used to join TMNVIOL and TINGOVAG.
TMNVIOL	TMNMPRD_ST_CODE	Source table is TMNRWSMA. This key would not be used to join TMNVIOL and TMNMPRD.
TMNVIOL	TINWSYS_ST_CODE0	Source table is TMNRWSMA, which is identified by TINWSYS. This key would not be used to join TMNVIOL to TINWSYS.
TMNVULAS	TINLGENT0ST_CODE	Source Table name is embedded in foreign key name.
TMNVULAS	TINLGENT0IS_NUMBER	Source Table name is embedded in foreign key name.
TSALLEA	TINLGENT0IS_NUMBER	Source Table name is embedded in foreign key name.
TSALLEA	TSALAB0ST_CODE	Source Table name is embedded in foreign key name.
TSALLEA	TSALAB0IS_NUMBER	Source Table name is embedded in foreign key name.
TSALLEA	TINLGENT0ST_CODE	Source Table name is embedded in foreign key name.
TSASAMPL	TSASAMPL0ST_CODE	Source table is TSASAMPL, represents a sample that links to one or more samples. For example, a 'repeat' sample contains the ST_CODE value in this field of the original sample to which the repeat should be linked.
TSASAMPL	TSASAMPL0IS_NUMBER	Source table is TSASAMPL, represents a sample that links to one or more samples. For example, a 'repeat' sample contains the IS_NUMBER value in this field of the original sample to which the repeat should be linked.
TSASMPPT	TINWSF0ST_CODE	Source table is TINWSF.
TSASMPPT	TINWSF_ST_CODE	Source table is TINUPF. TINUPF is identified by TINWSF_IS_NUMBER.
TSASMPPT	TINWSF_IS_NUMBER	Source table is TINUPF. TINUPF is identified by TINWSF_IS_NUMBER.
TSASMPPT	TINWSF0IS_NUMBER	Source table is TINWSF. To join TSASMPPT and TINWSF, use TINWSF0IS_NUMBER in table TSASMPPT for the join.
TSASMPSP	TINWSYS_IS_NUMBER0	Source table is TINWSF, which is identified by TINWSYS. This key would not be used to join TSASMPSP to TINWSYS. To join TSASMPSP and TINWSF, use TINWSF_IS_NUMBER in table TSASMPSP for the join
TSASMPSP	TINWSYS_ST_CODE0	Source table is TINWSF, which is identified by TINWSYS. This key would not be used to join TSASMPSP to TINWSYS.

**Exhibit 9-8. Foreign Key Exception List (continued)**

## Permitted Values

Click on the **Permitted Values** button to display the Permitted Values List dialog box, which will provide a definition of the permitted values for those attributes for which permitted values are defined.

Pressing the **Permitted Values** button on the Attribute Description dialog box for an attribute belonging to one of the following entities invokes the window listed beside the entity:

Action Type	-	Federal Action Type (TENACTYP) Values
Service Area Type	-	Federal Service Area Type (TINSAT) Values
Treatment Objective	-	Federal Treatment Objective (TINTROBJ) Values
Treatment Process	-	Federal Treatment Process (TINTRPRO) Values
Rule	-	Federal Rule (TMNRULE) Values
Violation Type	-	Federal Violation Type (TMNVTYP) Values
Analyte	-	Federal Analyte (TSAANLYT) Values
Standard Method/ Standard Method Number	-	Federal Standard Method/Standard Method Number (TSASTM/TSASMN) Values

These windows list the values for key columns in the federally owned records of these entities/tables. Exhibit 9-9 is a view of some of the federal action type values.

Federal Rule (TMNRULE) Values									
Abbreviation Text	Name	Status Type Code	Description	Publication Date	Begin Date	End Date	State ID Code	User ID Code	Last Updated
PBCU	LEAD & COPPER RULE	FN	Lead and Copper; Monitoring and Treatment Techniques	06/07/1991	01/01/1992		HQ	JAD	03/14/1995
ORG	ORGANIC CHEMICAL RULE	FN	Organic Chemicals; Monitoring and MCLs	12/24/1975	12/24/1975	12/31/1992	HQ	SRP	09/01/1999
PH1	PHASE I RULE	FN	Organic and Inorganic Contaminants; Monitoring and MCLs; Phase I	07/08/1987	01/01/1988		HQ	JAD	03/14/1995
PH2	PHASE II RULE	FN	Organic and Inorganic Contaminants; Monitoring and MCLs; Phase II	01/30/1991	07/30/1992		HQ	JAD	03/14/1995
PH5	PHASE V RULE	FN	Organic and Inorganic Contaminants; Monitoring and MCLs; Phase V	01/30/1991	07/30/1992		HQ	JAD	03/14/1995
PN	PUBLIC NOTIFICATION RULE	FN	Public Notification; General and Lead Program	10/28/1987	10/28/1987		HQ	JAD	08/02/1995
RAD	RADIONUCLIDE RULE	FN	Radionuclides; Monitoring and MCLs	07/09/1976	07/24/1977		HQ	JAD	03/14/1995

**Exhibit 9-9.** Federal Action Type Values

You will see the following message “Use Valid Reference Pairings selection to view permitted values for an attribute in this entity” when you click on the **Permitted Values** button for the attributes in the entities listed below:

- Analyte Level Rule Assignment (TMNALRA)
- Violation Type Analyte Assignment (TMNVTAA)
- Standard Method Analyte Assignment (TSASMAA)
- Code (TINCODE)
- Permitted Value (TINPVALS)
- D Valid Treat Obj Asgmt (TINVTOPA)





## Introduction

In August of 1998, the Environmental Protection Agency (EPA) promulgated the Consumer Confidence Reports regulation (CCR). This regulation requires community water systems to prepare and provide to their customers with annual consumer confidence reports on the quality of the water delivered by the systems. These reports will provide valuable information to customers of community water systems and allow them to make personal health-based decisions regarding their drinking water consumption.








































Since promulgation of this regulation, several tools have been developed to assist community water systems to prepare these annual reports. The *Migrate to CCR Writer* component is one such tool. This application can help produce an annual consumer confidence report by providing much of the information needed to prepare a CCR. The *Migrate to CCR Writer* component creates MS Access reports from data contained in the SDWIS/STATE database.

The reports created by *Migrate to CCR Writer* are not in the form required by EPA for the CCR. Instead, it is in what is called a “Fact Sheet” form, breaking down the information for a water system into three major categories of information: inventory information, violation information, and information about the results of sampling the water system. *Migrate to CCR Writer* also is not able to provide every bit of information needed for a CCR. But it can provide the bulk of the information needed so long as the primacy agency that maintains the SDWIS/STATE database has entered the information into SDWIS/STATE.

A second feature of *Migrate to CCR Writer*, the feature that gives it its name, is that it can migrate some of the information in SDWIS/STATE into EPA’s CCR Writer. This application, developed by EPA, is another tool to assist CWS in the effort to produce consumer confidence reports. In the first release of the *Migrate to CCR Writer* component, the information that is migrated into the CCR Writer is limited to contact information.

Because the information that *Migrate to CCR Writer* provides, it can also serve other purposes. For example, it could be used to respond to a Freedom of Information Act (FOIA) request. It can also be used to prepare water system history reports.

In order to support its dual purpose of providing fact sheet information about a water system as well as migrating some information from the fact sheet tables to those of EPA's CCR Writer (CCRtbl.MDB), *Migrate to CCR Writer* (CCRBrig.mdb) contains the tables below (Exhibit 10-1). These fact sheet tables mirror the structure of SDWIS/STATE Oracle tables of the same name, but they contain only records that meet the criteria that you specify and that have been specified as necessary under the 1998CCR Rule

 CCRBrigTININDIV	 CCRBrigTSAANLYT	 TINGEOAR	 TMNVOL
 CCRBrigTINLGENT	 CCRBrigTSAMAR	 TININDIV	 TMNVTYPE
 CCRBrigTINWSF	 CCRBrigTSASAMPL	 TINLGENT	 TSAANLYT
 CCRBrigTINWSLEC	 CCRBrigTSASAR	 TINWSF	 TSAMAR
 CCRBrigTINWSYS	 CCRBrigTSASMPPT	 TINWSGAA	 TSASAMPL
 CCRBrigTMNALRA	 CCRBrigTSASMPSPM	 TINWSLEC	 TSASAR
 CCRBrigTMNMPRD	 CCRBrigTSASSR	 TINWSYS	 TSASMPPT
 CCRBrigTMNRULE	 mytblContactInfo	 TMNALRA	 TSASMPSPM
 CCRBrigTMNVOL	 tblContactInfo	 TMNMPRD	 TSASSR
 CCRBrigTMNVTYPE	 tblEPACChemData	 TMNRULE	

**Exhibit 10-1. Migrate To CCR Writer Table**

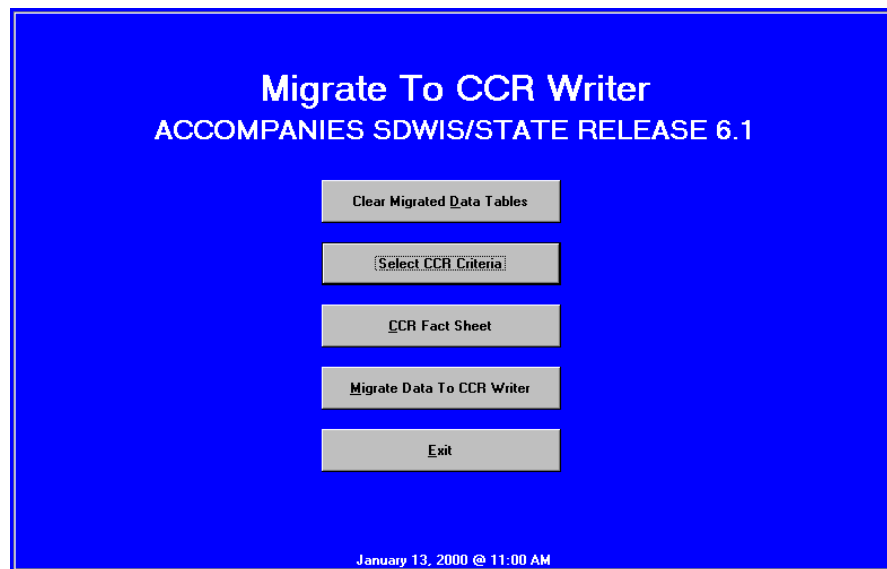
## Linking To Migrate To CCR Writer

*Migrate to CCR Writer* (CCRBrig.mdb) is linked to your Oracle 8 SDWIS/STATE 6.0 data schema during the installation process. This happens as a result of running SETUP6.1.SQL, the same script that links RELATION.MDB to your Oracle 8 SDWIS/STATE data schema. If you find that your CCRBrig.mdb is not properly linked to your Oracle 8 SDWIS/STATE data schema at any time after the installation, re-execute SETUPMSA.SQL, specifying the data schema to which it should point.

The SDWIS/STATE installation of CCRBrig.MDB assumes that the CCR Writer database (CCRtbl.MDB) is located in its default directory, which is C:\CCR Writer. If you move it to another directory, use the Link Table Manager (**Tools/Add-ins/Link Table Manager**) feature of MS Access 97 to link to tblContactInfo and tblEPACChemData (in CCRtbl.MDB). If you cannot locate the Link Table Manager, it is not installed, and you must re-insert your MS Access CD to install that component.

## Migrate To CCR Writer Main Menu

Double-click on the *Migrate to CCR Writer* icon on your desktop to invoke the *Migrate to CCR Writer* main menu as shown in Exhibit 10-2.



**Exhibit 10-2.** Migrate to CCR Writer Main Menu

The *Migrate to CCR Writer* main menu offers five buttons:

- |                                   |   |
|-----------------------------------|---|
| <b>Clear Migrated Data Tables</b> | Deletes data from all non-reference tables in <i>Migrate to CCR Writer</i> (i.e., all tables except for the three reference tables: tblEPACChemData, TSAANLYT, and TMNRULE as well as tblContactInfo in EPA's CCR Writer). When all non-reference tables are cleared of data, <i>Migrate to CCR Writer</i> displays the following message: "All non-reference tables have been cleared."                      |
| <b>Select CCR Criteria</b>        | Invokes the Migrate to CCR Writer Selection Criteria window (Exhibit 10-3). Use this button to extract appropriate data from SDWIS/STATE tables in order to populate the fact sheet tables in <i>Migrate to CCR Writer</i> .  |
| <b>CCR Fact Sheet</b>             | Invokes a report for each selected water system.  |
| <b>Migrate Data to CCR Writer</b> | Invokes the Water System Contact dialog box (Exhibit 10-3). Once you specify the Contact Type, press <b>OK</b> on this dialog box. This initiates the selection, conversion/formatting, and migration of CCR-pertinent, contact-related fields for records that exist in the <i>Migrate to CCR Writer</i> fact sheet tables to the tblContactInfo table in EPA's CCR Writer database. When the data migration |

from the fact sheet tables into CCR Writer (tblContactInfo) is finished, *Migrate to CCR Writer* displays the following message:  
“Migration of data into tblContactInfo is complete.”

**Exit**

Returns to the main menu.

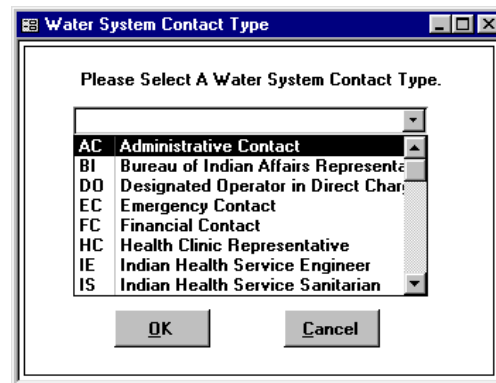
**Select CCR Criteria**

The **Select CCR Criteria** button invokes the Migrate to CCR Writer Selection Criteria window (Exhibit 10-3 and 10-4). This window is where you specify the selection criteria for the data to be extracted from SDWIS/STATE tables for the purpose of populating the *Migrate to CCR Writer* fact sheet tables.

The screenshot shows a Windows-style dialog box titled "Migrate to CCR Writer Selection Criteria". The dialog contains the following elements:

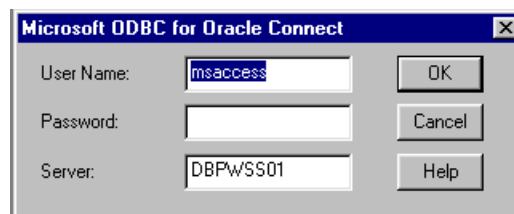
- Reporting Date Range:** A section with two text input fields labeled "Begin Date:" and "End Date:".
- Active Community Water Systems:** A section containing a checkbox labeled "All" which is checked. Below it is a sub-section titled "For Geographic Area" which contains two dropdown menus labeled "Type:" and "Name:".
- Any Water System:** A section containing two dropdown menus labeled "Number:" and "Name:".
- Buttons:** At the bottom of the dialog are three buttons: "Clear", "OK", and "Cancel".

**Exhibit 10-3.** Migrate to CCR Writer Selection Criteria



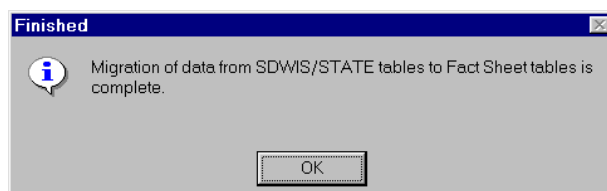
**Exhibit 10-4.** Select Water System Contact Dialog Box

Enter the date range (both Begin and End Date), which determines which samples, summaries, results, and violations are retrieved for the selected water systems. Next, specify whether you want records for all active community water systems, or active community water systems within a selected geographic area, or a single water system (in this case, you can select any water system regardless of its classification or activity status). The fact sheet Water System table is populated according to the water system criteria you select. The software retrieves all legal entities associated as an active contact to the water system(s) that meet the selection criteria. After pressing **OK**, you are prompted to log in to the Oracle database (Exhibit 10-5). Enter MSACCESS as both the user name and password.



**Exhibit 10-5.** Oracle Database Login

Press **OK** to begin populating the fact sheet tables. The first action that occurs when you press **OK** is the clearing of all Migrate to CCR Bridge non-reference tables. (While you can explicitly choose to clear these tables, they must be cleared prior to each run to preclude duplicate data from being copied into the fact sheet tables.) The logic used to select SDWIS/STATE data to populate these tables is described under "Selection Logic For Populating Fact Sheet Tables." When all Fact Sheet tables are populated successfully, you receive the following message (Exhibit 10-6).



**Exhibit 10-6.** Fact Sheet Table Information Message

### ***Migrate Data to CCR Writer***

The **Migrate Data to CCR Writer** button invokes the Water System Contact Type dialog box, where you can specify the Water System Contact Type to be used when migrating contact information from the *Migrate to CCR Writer* fact sheet tables to CCR Writer tblContactInfo (Exhibit 10-6). If a water system in the fact sheet tables does not have the type of Point of Contact selected, a record for that water system is still created in the CCR Writer tblContactInfo table but the Contact name field will be populated with “No contact of selected type” and the Phone field is populated with “999-999-9999.”

- Press **Cancel** to close the dialog box and return to the *Migrate to CCR Writer* main menu.
- Press **OK** to initiate the process of selecting records from fact sheet tables and converting/formatting, and migrating CCR-pertinent fields for records that exist in the fact sheet data tables to the appropriate fields in EPA’s CCR Writer database (tblContactInfo).
- If the water system has no contact specified in the database, the program sets CCRBrig.tblContactInfo.Contact to “No contact of selected type,” and sets CCRBrig.tblContactInfo.Phone to “9999999999.”
- If the water system has more than one contact of the type specified in the database, the program selects the most recent contacts using the CCRBrig.TINWSLEC.BEGIN\_DATE for the water system and sets the 16 remaining CCRBrig.tblContactInfo fields according to mapping and data manipulation instructions in Fact Sheet Table to CCR Writer Mapping Matrix (Appendix G).
- If the water system has one contact of the type specified in the database, the program sets the 16 remaining CCRBrig.tblContactInfo fields according to mapping and data manipulation instructions in Fact Sheet Table to CCR Writer Mapping Matrix (Appendix G).

### **Selection Logic For Populating Fact Sheet Tables**

When you enter a date range, select other fact sheet criteria, and press **OK** on the Migrate to CCR Writer Selection Criteria window, data from some SDWIS/STATE tables populate the fact sheets tables in the *Migrate to CCR Writer* component. The selection criteria that govern how these tables are populated are shown below.

***Populating Fact Sheet Water System Table (CCRBrig.TINWSYS)***

The *Migrate to CCR Writer* fact sheet Water System table is populated according to one of three criteria you select:

1. When you select the “All” check box, all active, current community water systems are selected from the SDWIS/STATE database.
2. When you enter both a geographic area type and name, all active, current community water systems related to the geographic area you specified are selected from the SDWIS/STATE database.
3. When you select a single water system, that water system is selected from the SDWIS/STATE database. This water system does not have to be an active, current community water system.

***Populating Fact Sheet Legal Entity, Individual, and Legal Entity Contact Tables (CCRBrig.TINLGENT, CCRBrig.TININDIV, and CCRBrig.TINWSLEC)***

The *Migrate to CCR Writer* component retrieves each active legal entity contact record and its associated legal entity record from SDWIS/STATE for each water system meeting the selection criteria above. These records populate the CCRBrig.TINLGENT, CCRBrig.TININDIV, and CCRBrig.TINWSLEC tables in the fact sheet. Some water systems may have more than one contact and even more than one contact of the same type. If this is the case, these multiple contacts are retrieved into the fact sheet TINWSLEC table.

***Populating Fact Sheet Water System Facility Table (CCRBrig.TINWSF)***

The *Migrate to CCR Writer* component retrieves all active Water System Facilities for each water system meeting the water system selection criteria above.

***Populating Fact Sheet Sampling Point Table (CCRBrig.TSASMPPT)***

The *Migrate to CCR Writer* component retrieves all Sampling Points for each water system meeting the water system selection criteria above.

***Populating Fact Sheet Monitoring Period Table (CCRBrig.TMNMPRD)***

The *Migrate to CCR Writer* component retrieves all Monitoring Periods from the SDWIS/STATE database to the fact sheet table whose Begin Date is in the range from four years prior to the input Begin Date.

***Populating Fact Sheet Analyte Level Rule Pairing Table (CCRBrig.TMNALRA)***

The *Migrate to CCR Writer* component retrieves all Analyte Level Rule records from the SDWIS/STATE database into the fact sheet tables where the record is in effect during the reporting period selected, the record is a Threshold Type record (i.e., Action Level, Maximum Contaminant Level,

Maximum Contaminant Level Goal, Trigger Level, or Unreasonable Risk to Health Level), and the record is linked to a *Migrate to CCR Writer* fact sheet analyte and rule.

***Populating Fact Sheet Sample, Sample Analytical Result, and Microbiological Sample Analytical Result Tables (CCRBrig.TSASAMPL, CCRBrig.TSASAR, and CCRBrig.TSAMAR)***

Individual samples and sample results from SDWIS/STATE are migrated into the *Migrate to CCR Writer* database in accordance with each of five separate processes for all of the water systems selected.

1. ***Total Coliform Rule Results.*** The *Migrate to CCR Writer* component migrates samples and analytical results obtained for compliance with the Total Coliform Rule (TCR) that were obtained from samples collected during the selected date range. Specifically, the software selects TCR results and parent sample where the analyte for the result is total coliform, fecal coliform, or *E. coli*; and the data quality of the result is either “Accepted” or “Validated”; and the sample for the result:
  - Is for the selected water system, and
  - Is a “For Compliance” sample, and
  - Was collected between the input Start Date and the input End Date, and
  - Is a routine or repeat sample type.
2. ***Other Microbiological Samples and Results.*** The *Migrate to CCR Writer* component migrates other (other than TCR related) microbiological samples and analytical results that were obtained from samples collected during the reporting period selected or collected during the four years preceding it. The software selects microbiological result and sample records not obtained under the TCR Rule where the analyte for the result is of type “MOR” (microbiological) but not total coliform, fecal coliform, or *E. coli* and is represented in tblChemData of EPA’s CCR Writer; the result is either “Accepted” or “Validated”; and the sample for the result:
  - Is for the selected water system, and
  - Is a “For Compliance” sample, and
  - Was collected between “4 years prior to the input Begin Date” and “the input End Date,” and
  - Is a routine, repeat, confirmation, continuous, duplicate, grab, or split sample type.



3. *Total Trihalomethane Rule Results.* The *Migrate to CCR Writer* component migrates analytical results obtained for compliance with the Total Trihalomethane (TThm) Rule, which were collected during the reporting period selected. The software selects TThm and individual trihalomethane results and their parent samples where the analyte is TThm, bromoform, chloroform, bromodichloromethane, or chlorobidromethane, and the data quality of the result is either “Accepted” or “Validated”; and the sample for the result:
  - Is a “For Compliance” sample.
  - Was collected between the input Begin Date and the input End Date.
  - Is a routine sample or confirmation sample type.
  - Has a sampling point whose water system facility is of type distribution system and belongs to the selected water system.
4. *Trihalomethane Results Obtained Under UCM Rule.* The *Migrate to CCR Writer* component migrates analytical results for trihalomethanes obtained for compliance under the Unregulated Contaminant Monitoring (UCM) Rule that were obtained from samples collected during the reporting period selected or collected during the four years preceding it. The analyte is TThm, bromoform, chloroform, bromodichloromethane, or chlorodibromomethane, the data quality of the result is either “Accepted” or “Validated,” and the sample for the result:
  - Is a “For Compliance” sample.
  - Was collected between “4 years prior to the input Begin Date” and “the input End Date.”
  - Is a routine, repeat, confirmation, continuous, duplicate, grab, split sample type.
  - Has a sampling point whose water system facility is not of type distribution system but belongs to the selected water system.
5. *Other Chemical and Radionuclide Results.* The *Migrate to CCR Writer* component migrates other (other than TThm) chemical and radionuclide results, which were obtained from samples collected during the reporting period selected or collected during the four years preceding it. Selection criteria for extracting samples and analytical results from SDWIS/STATE and migrating them into the *Migrate to CCR Writer* fact sheet tables for inorganic chemicals, synthetic organic chemicals, volatile organic chemicals (except TThm), and radioactive contaminants (also known as radiological contaminants or radionuclides) are:
  - The analyte is not TThm, bromoform, chloroform, bromodichloromethane, or chlorobidromethane and is not a result for a microbiological contaminant (analyte type of MOR) and is represented in tblEPACChemData of EPA’s CCR Writer.

- The data quality of the result is either “Accepted” or Validated,”
- The sample for the result:
  - Is a “For Compliance” sample.
  - Was collected between “4 years prior to the input Begin Date” and “the input End Date.”
  - Is a routine, repeat, confirmation, continuous, duplicate, grab, split sample type.
  - Is not a Rad composite quarterly sample.

***Populating Fact Sheet Sample Summary and Sample Summary Result Tables (CCRBrig.TSASMPSP and CCRBrig.TSASSR)***

The *Migrate to CCR Writer* component, in the final results-related process, migrates Sample Summary results (such as lead and copper 90<sup>th</sup> percentile summary results) from SDWIS/STATE tables into the *Migrate to CCR Writer* fact sheet tables. The selection criteria for Sample Summary results is as follows:

- The data quality of the summary result is either “Accepted” or “Validated.”
- The sample summary is “For Compliance.”
- The analyte for the sample summary is represented in tblEPACChemData of EPA’s CCR Writer.
- The monitoring period for the sample summary:
  - Has a begin date between “4 years prior to the input Begin Date” and “the input End Date,” and
  - An end date between “4 years prior to the input Begin Date” and “the input End Date.”

***Populating Fact Sheet Violation Type and Violation Tables (CCRBrig.TMNVTYPE and CCRBrig.TMNVOL)***

The *Migrate to CCR Writer* component retrieves all validated violations from SDWIS/STATE that have a compliance period begin or end date that falls inside of the selected reporting period, regardless of whether the violation is a state-defined violation or a federally defined violation. All violation records from SDWIS/STATE are selected where the violation:

- Is against a water system that has already been migrated into the Water System fact sheet table.
- Is a validated violation.

- Has a compliance period begin date that is in the selected reporting period.
- Is for an analyte in the fact sheet table or does not reference an analyte.

### **Fact Sheet Reports**

After extracting data from SDWIS/STATE tables to populate the fact sheet tables, you can view a Fact Sheet Report by pressing the **CCR Fact Sheet** button on the *Migrate To CCR Writer* main menu (Exhibit 10-7). The report is separated by water system.

CCR Fact Sheet							
<b>11TH STREET A WELL</b>							
SYSTEM ID	PWS TYPE	POPULATION	PRINCIPAL CITY SERVED	PRINCIPAL COUNTY SERVED	PRIMARY SOURCE		
IL1617726	C	100			GW		
<b>Points Of Contact - Individuals</b>							
TYPE	NAME	PHONE	FAX	ADDRESS	EMAIL ADDRESS		
OW	RONALD FLETCHER	309-797-4472		1104 46TH AVE. MOLINE, IL 61265			
AC	DONALD GLADFELTER	309-797-4472		1104 46TH AVE. MOLINE, IL 61265			
SA	DONALD GLADFELTER	309-797-4472		1104 46TH AVE. MOLINE, IL 61265			
<b>Fact Sheet - Water System Facilities (WSF) Section</b>							
TYPE (1)	STATE ID	FED ID	NAME	ACTIVITY DATE	OPERATING STATUS (2)	SOURCE TYPE	LOCATION
DS	DISTRIBUTION	26961	11TH STREET A WELL	07/01/1999	E		
OT	123456789	28644	TESTING NOV 4TH	11/04/1999			
TP	TAP 01	12878	WELL NO NE	NA		GW	
W/L	WELL 00156	13617	WELL BETWEEN 4717 & 4721 11TH ST A	NA	P	GW	
NOTES: 1. CH = common header; CS = cistern; CW = clear well; DS = distribution system; IG = infiltration gallery; IN = intake; OT = other; PC = pressure control; PF = pump facility; RC = roof catchment; RS = reservoir; SI = surface impoundment; SP = spring; SS = sampling station; ST = storage facility; TM = transmission main; TP = treatment plant; WH = well head; WL = well. 2. E = emergency use only; I = intermittent use; O = Other; P = permanent or regular use; S = seasonal use (only available during a given season).							

ABS WTR COOP							
SYSTEM ID	PWS TYPE	POPULATION	PRINCIPAL CITY SERVED	PRINCIPAL COUNTY SERVED	PRIMARY SOURCE		
IL0015350	C	2550		ADAMS	GWP		
<b>Fact Sheet - Total Coliform Rule (TCR) Results</b>							
MONITORING PERIOD		SAMPLE DATE	SAMPLE ID	SAMPLE TYPE ID	SAMPLE LOCATION DESCRIPTION	INDICATOR ORGANISM	RESULT P/A (1)
12/01/1998	12/31/1998	12/07/1998	B824211	RT 10001-02	GOLDEN EAST-66	Total Coliform	A
		12/07/1998	B824212	RT 10101-02	CLAYTON NORTH-81	Total Coliform	A
		12/07/1998	B824213	RT 10201-02	CLAYTON SOUTH-87	Total Coliform	A
		12/07/1998	B824214	RT 10301-02	WOLF RIDGE RD-103	Total Coliform	A
		12/07/1998	B824215	RT 10401-02	CAMP POINT BLACKTOP-	Total Coliform	A
		12/07/1998	B824216	RT 10501-02	BIG NECK LOOP-153	Total Coliform	A
						Total Coliform	A
Notes: 1. "A" means the indicator organism was not found in the sample of water; "P" means the indicator organism was present in the sample							

**Exhibit 10-7. Fact Sheet Report Examples**

# Appendix A: Troubleshooting

## Water System Groups

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Appendix A discusses some of the possibilities that may interest you regarding water system groups. The following information also defines some commonly used terms related to water system groups.

### Maintaining Water System Groups

You can maintain water system groups by selecting **Detail/Maintain WS Group** in the *Inventory*, *Sampling*, or *Monitoring and Noncompliance* components (Exhibit A-1). Water system groups provide a means to organize water systems in functional groupings meaningful to a user. In addition to government agency access, there are two types of water system groups:

**Dynamic** Dynamic groups are defined by the characteristics of the water systems within the primacy agency. Selection criteria include activity status, primary source, federal type, and population range. The contents of the group change dynamically (when recalculated by the user) as the water system characteristics change.

**Static** Static groups are defined by an explicit selection of water systems from the Water System List window. The list may include all water systems regulated by one of the user's government agencies or groups, depending on what was current when the group was created. The contents of the group change only by explicit direction of the group's owner. Static groups may be created by any user for use in sample schedule review and data entry for a finite list of water systems.

Many government agencies are rather large, and therefore can affect performance of the SDWIS/STATE application. To make your SDWIS/STATE session more efficient, establish smaller groups of selected water systems. (When naming groups or creating water system names, do not use any special characters, e.g., apostrophes, dashes, etc.). SDWIS/STATE can access all groups, but you must select one group or government agency to work with at a time. To select a group or agency with which to work, single click the appropriate row in the Water System Group Maintenance List or Assigned Government Agencies List and select **Edit/Make Current**. This establishes the finite set of water systems for the current SDWIS/STATE session, as defined by either a water system group or government agency. The composition of most water system groups may be changed; **Make Current** is the only **Edit** menu item available when a government agency is selected.

Water system groups are either public or private. This term refers to whether an individual owns the group or whether it may be used publicly; the default is private ownership. Water system groups can be made public in the Water System Group Maintenance List. A group can be made public only by the SDWIS/STATE Administrator or the group creator and can then only be modified by the administrator or creator. Public groups can be used by any registered SDWIS/STATE user, while private groups can be used only by the group's creator. Once a group is made public, it cannot be made private again.

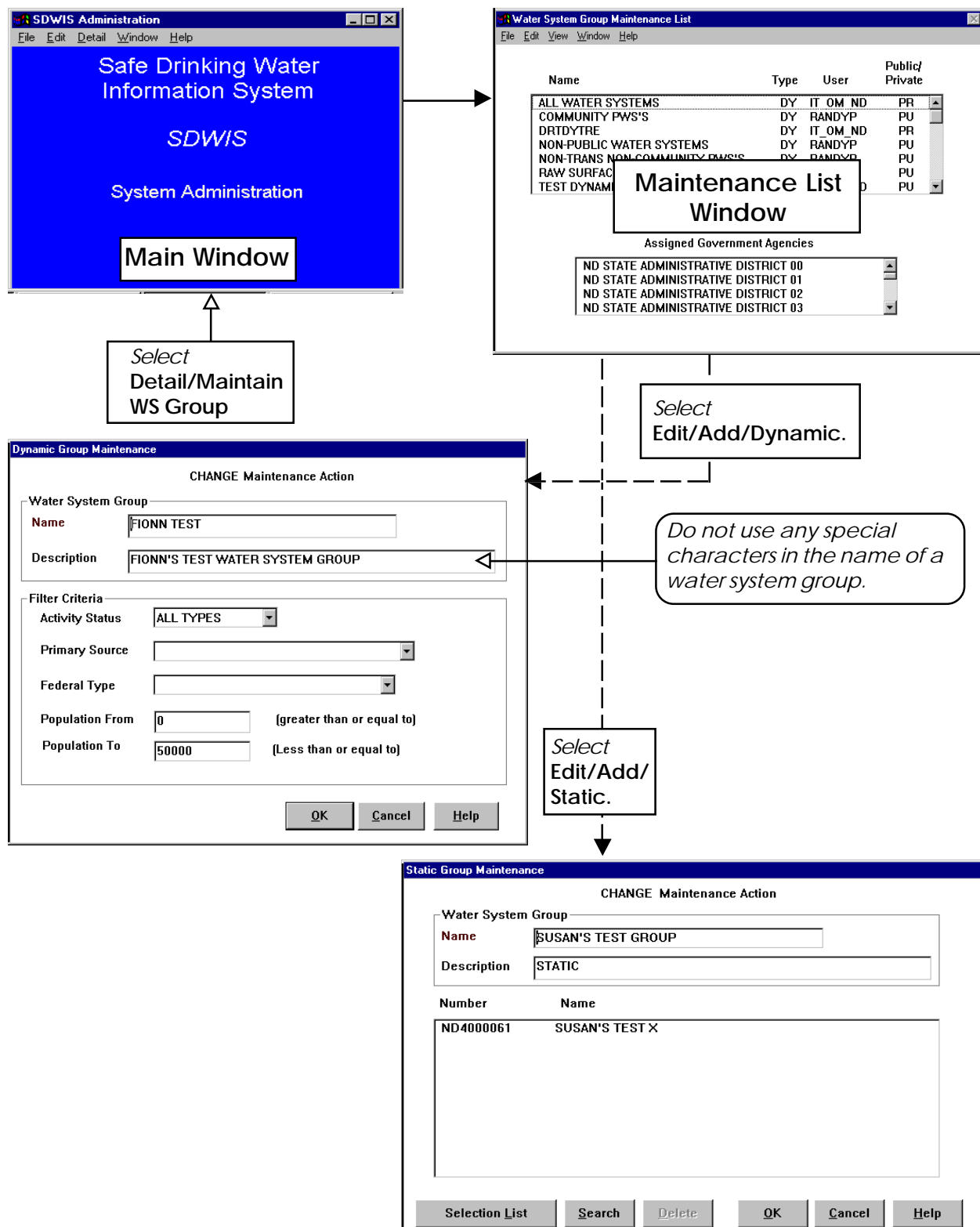


Exhibit A-1. Dynamic and Static Group Maintenance Windows

## Government Agency Access

Government agency access represents the most complete set of water systems to which a user is granted access. Once assigned by a complete government agency (primacy) group by the SDWIS/STATE Administrator, you can access all the water systems that the assigned government agency regulates. Once you make the desired government agency current, you can subsequently access any of the associated water systems.

## Help With Static and Dynamic Groups

You may sometimes experience difficulties when trying to retrieve water systems via groups. There are several possible explanations for your inability to retrieve a water system even when you are certain it exists in the database. The information may be helpful if you encounter this type of problem. Answering the following questions should help you determine why a water system may not appear in any of the water system lists.

- **Is the desired water system new?** If a water system dynamic group is current, it may need to be recalculated if the desired water system is new and the group has not been recalculated since the water system was added. If a government agency is current, the water system must be regulated (assigned to a Regulation Agency in *Inventory*) by that agency in order for it to appear in any water system lists.
- **Is the water system included in the current water system group or is it regulated by the current government agency?** Determine which water system group or government agency is current. This information can be obtained by selecting **Detail/Display User ID** from the **Detail** menu. A water system will not be displayed in any available water system list unless it is included in the user's current group or is regulated by the current government agency.
- **Does the desired water system have the necessary regulating agency assignments?** The desired water system must have a regulating agency assigned to it that matches the current government agency. Ask your SDWIS/STATE Administrator to refer to the Government Agency Access List window in *System Administration* to determine with which government agencies a specified user is associated.
- **Note:** You may also need to assign the water system to a Regulating Agency in the inventory for that system. When maintaining existing dynamic groups remember that groups with primary source = ALL TYPES, and federal type = ALL TYPES will show blanks where the ALL TYPES values were selected. This is as designed.

## Recalculate Dynamic Water System Group

**Detail/Recalculate WS Group** is available on the *Inventory, Sampling, and Monitoring and Noncompliance* main windows. The process of recalculating a water system group involves evaluating each water system against the criteria defined for the water system group. Recalculating a group may assign additional water systems to or eliminate water systems from the group if certain water system data have changed that affect whether or not the water systems now meet the criteria defined for the group. Essentially, the recalculation of a water system group establishes a baseline of water systems that meet the definition of the current criteria for the group. Note that only dynamic groups can be recalculated. Static groups are unique in that specific water systems are assigned to them by a user; they are not criteria-based. Therefore, a static group does not require recalculation.

Contact your SDWIS/STATE Administrator for more information about water system groups.



## Appendix B: Regulatory Classification

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Regulatory classification of water systems involves the aggregation of Annual Operating Periods (AOP), population numbers, types of populations, and the number of service connections. The states and water systems are keenly aware of the differences in monitoring and quality requirements for systems of different sizes and classes. The higher the class and larger the population, the higher the requirements. The states (and EPA) sometimes have different views on how water systems should be classified. The states generally espouse the need to maintain discretionary authority over such issues. SDWIS/STATE allows states unrestricted discretion when assigning the State Type Code to a water system and allows restricted discretion when assigning the Federal Type Code. The following explains how SDWIS/STATE calculates water system types and allows users to change its calculation.

Table B-1 presents the SDWIS/STATE criteria for determining whether a water system is a public or a non-public water system. You will note that, in addition to considering the AOP, populations, population types, and number of service connections SDWIS/STATE also checks to see if a water system has been associated with a Regulating Agency. This last criterion was added because this association is needed for automated noncompliance to function properly.

<b>RAA</b>	Regulating Agency Assignment	<b>NON-TRAN POP</b>	Non-Transient Population
<b>AOP</b>	Annual Operating Period	<b>TRAN POP</b>	Transient Population
<b>SERV CONN</b>	Service Connections	<b>WHOLESALE POP</b>	Wholesale Population
<b>RES POP</b>	Residential Population		

Federal WS Type	RAA	AOP (days/yr)	SERV CONN	RES POP (R)	NON- TRAN POP (NT)	TRAN POP (T)	TRAN POP (R+NT+T)	WHOLE- SALE POP (W)
Public Water System	YES	>59	{(>14 (>=0 (>=0	ANY ANY ANY	ANY ANY ANY	ANY ANY ANY	>0 >24 ANY	ANY) OR ANY) OR >0)}
Non- Public Water System	NO	<60	(<15				<25	=0)

**Table B-1.** General Criteria Used To Determine Public and Non-Public Water Systems

Once SDWIS/STATE determines that a water system is a public water system (using the criteria in Table B-1), then SDWIS/STATE continues to evaluate the water system against the criteria given in Table B-2. If a water system fits one of the criterion given in Table B-2, SDWIS/STATE assigns

the corresponding PWS Type to that water system, as its federal type code. If the criteria of Table B-2 apply, then the user cannot change the federal type code. However, a user can change the state type code at any time, regardless of the information entered into SDWIS/STATE.

Federal PWS Type	AOP (days/yr)	SERV CONN	RES POP (R)	NON-TRAN POP (NT)	RES + NON-TRAN (R + NT)	TRAN POP (T)	TOTAL POP (R + NT + T)	WHOLE-SALE POP (W)
Community Water System (CWS)	= 365	(> 0)	> 24	ANY	ANY	ANY	ANY	ANY
Non-Transient Noncommunity Water System (TNCWS)	> 181	(> 0)	= 0	> 24	ANY	ANY	ANY	= 0)
Transient Noncommunity Water System (TNCWS)	> 181 > 59 & < 182	{(> 14 > 0) {(> 14 > 0}	= 0 = 0 ANY ANY	= 0 = 0 ANY ANY	= 0 = 0 ANY ANY	> 0 > 24 ANY ANY	> 0 > 24 > 0 > 24	= 0) OR = 0))} = 0 OR = 0))}

**Table B-2.** Criteria Used to Determine Type of Public Water System

If a water system meets the Public Water System criteria given in Table B-1 but does not fit the criteria given in Table B-2, then SDWIS/STATE compares the water system information against the criteria given in Table B-4. This table makes up what are called *de minimus* conditions, that is to say, conditions under which states may differ in their assignment of the federal PWS type code.

One of the main conditions involved here is the “Wholesale” population. “Wholesale” could mean residential, non-transient non-community, or transient non-community population type. If a water system has a wholesale population and has less than 25 residential population, that water system could be any type of a water system, including a non-public water system (if the total of all populations is less than 25 and service connections are less than 15).

Note that Table B-1 does not show how SDWIS/STATE determines the default federal PWS type when a water system has more than one annual operating period. When this occurs, SDWIS/STATE assumes a *de minimus* condition exists (that is, SDWIS/STATE will allow the user to select the federal PWS type code), and SDWIS/STATE does not restrict the federal type code selection (the user is able to select any one of the four classifications).

As an example of how states may differ and how SDWIS/STATE handles water systems that meet a *de minimus* condition, consider the water system described in Table B-3. Assume that this water system has 15 or more service connections. Some states may decide to classify this water system as a **community** system even though the residential population is less than 25. These states may justify this classification by reasoning that they provide the highest level of public health protection through higher monitoring requirements. Another state may classify this system as **non-transient, non-community** (NTNC), because the residential population is less than 25 but more than 25 of the same people are served at least 6 months per year. The classification of NTNC, in this case, is the least stringent classification allowed by SDWIS/STATE for the **federal** PWS type code.

Limitations on the **federal** PWS type code are imposed in certain circumstances based on guidance documents from the United States Environmental Protection Agency (EPA). If a third state felt that this example system should be classified as a **transient non-community**, it could use the State PWS Type Code to do so. However, SDWIS/STATE would not allow the state to assign this classification in the federal PWS Type Code field.

There is sufficient diversity in how states classify water systems to support multiple classification decisions and allow disagreements. Offering the discretion to decide for themselves in *de minimus* cases provides the states with flexibility to determine the appropriate federal classification for water systems appropriate to their local interpretations of the rule. Remember that states can always select any classification they want as the State PWS Type Code.

POPULATION TYPE	POPULATION COUNT	DAYS SERVED	SERVICE TYPE
Residential	24	365	Mobile Home
Non-Transient	26	240	School
Transient	100	190	Motel, Bar, Restaurant
<i>Total Population Count</i>	<i>150</i>	<i>190-365</i>	<i>N/A</i>

**Table B-3.** Example of a *De Minimus* Condition

B-4

<b>AOP (days/yr)</b>	<b>SERV CONN</b>	<b>RES POP (R)</b>	<b>NON-TRAN POP (NT)</b>	<b>RES + NON -TRAN (R+ NT)</b>	<b>TRAN- POP (T)</b>	<b>TOTAL POP (R+ NT+ T)</b>	<b>WHOLE- SALE POP (W)</b>	<b>Default PWS Type</b>	<b>Optional Federal Type Codes</b>
= 365 AND	{(= 0 (= 0 (= 0 (= 0 (= 0 (= 0 (= 0  (> 0 (> 0 (> 0 (> 0  (> 14 (> 14 (> 14	> 24 < 25 = 0 = 0 = 0 > 0 & < 25 = 0 ANY  > 0 & < 25 = 0 > 0 & < 25 < 25  > 0 & < 25 < 25 < 25	ANY > 0 > 24 > 24 < 25 < 25 = 0 ANY  > 0 > 0 & < 25 < 25 ANY  = 0 > 0 & < 25 < 25	> 24 > 24 > 24 > 0 & < 25 > 0 & < 25 = 0 ANY  > 24 > 0 & < 25 > 0 & < 25 ANY  > 0 & < 25 > 0 & < 25 < 25	ANY ANY ANY > 0 > 0 > 0 > 24 ANY  ANY > 0 > 0 ANY  = 0 = 0 = 0 & < 25	> 24 > 24 > 24 > 24 > 24 > 24 ANY  > 24 > 24 > 24 ANY  < 25 < 25 < 25	= 0) OR = 0) OR = 0) OR = 0) OR = 0) OR = 0) OR = 0) OR  = 0) OR = 0) OR = 0) OR = 0) OR  = 0) OR = 0) OR = 0)	CWS NTNC NTNC TNC TNC TNC CWS  NTNC TNC TNC CWS  CWS NTNC TNC	All (ind NP) All (ind NP) NTNC, TNC, NP NTNC, TNC, NP All (ind NP) TNC & NP All  C or NTNC NTNC, TNC C, NTNC, TNC All  All (ind NP) All (ind NP) All (ind NP)
> 181 & < 365 AND	{(= 0 (= 0 (= 0 (= 0  (> 0 (> 0 (> 0  (> 14 (> 14 ANY	> 0 = 0 = 0 > 0 & < 25  > 0 = 0 > 0 & < 25  < 25 < 25 ANY	> 0 > 24 > 0 & < 25 > 0 & < 25  ANY > 0 & < 25 > 0 & < 25  < 25 < 25 ANY	> 24 > 24 < 25 < 25  > 24 > 0 & < 25 > 0 & < 25  > 0 & < 25 > 0 & < 25 ANY	ANY ANY > 0 > 0  ANY > 0 > 0  = 0 > 0 & < 25 ANY	> 24 > 24 > 24 > 24  > 24 > 24 > 24  < 25 < 25 ANY	= 0 OR = 0 OR = 0 OR = 0 OR  = 0 OR = 0 OR = 0 OR  = 0 OR = 0 OR = 0 OR > 0)}	NTNC NTNC TNC TNC  NTNC TNC TNC  NTNC TNC NTNC	All (ind NP) NTNC, TNC, NP NTNC, TNC, NP All (ind NP)  C or NTNC NTNC, TNC C, NTNC, TNC  All (ind NP) All (ind NP) All
> 59 & < 182 AND	{(= 0 AND	ANY ANY	ANY ANY	ANY ANY	ANY ANY	> 24 ANY	= 0) OR > 0)}	TNC TNC	TNC & NP TNC & NP

**Table B-4. De Minimus Conditions**

Please note in Exhibit B-5, that SDWIS/STATE assesses water system primary source code according to the sequence shown, that is checking for a water system facility that is a source and that meets the criteria of the first line, and if not found, checking for one that meets the criteria of the second line, etc. Once a water system facility that meets the criteria is identified, SDWIS/STATES types the Federal Primary Source (updates field Federal Primary Source Code), and the assessment terminates.

For example, if the water system being assessed has a Water System Facility that meets the criteria specified in the first line, (that is, whose Availability Code is (P, I, S, or 0) and its WaterType Code is SW and it's type is not CC or NP), then the software identifies the Water System's Federal Primary Source Code as SW and terminates the assessment at that point. If no such facility exists for the water system, the assessment continues using the criteria specified in the second line: a water system facility whose Availability Code is (P, I, S, or 0) and its WaterType Code is SW and it's type is CC or NP. The assessment continues through each criteria line until Federal Primary Source Code is valued.

If <b>SOURCE WATER SYSTEM FACILITY</b>			Then <b>WATER SYSTEM</b>
<i>Availability Code</i>	<i>Water Type Code</i>	<i>Type Code</i>	<i>D_Fed_Primary_Source_Code</i>
= P,I,S or 0 and	= SW	and not 'CC' or 'NP'	= SW
= P,I,S or 0 and	= SW	and = 'CC' or 'NP'	= SWP
= P,I,S or 0 and	= GU	and not 'CC' or 'NP'	= GU
= P,I,S or 0 and	= GU	and = 'CC' or 'NP'	= GUP
= P,I,S or 0 and	= GW	and not 'CC' or 'NP'	= GW
= P,I,S or 0 and	= GW	and = 'CC' or 'NP'	= GWP
= 'E' and	= SW	and not 'CC' or 'NP'	= SW
= 'E' and	= SW	and = 'CC' or 'NP'	= SWP
= 'E' and	= GU	and not 'CC' or 'NP'	= GU
= 'E' and	= GU	and = 'CC' or 'NP'	= GUP
= 'E' and	= GW	and not 'CC' or 'NP'	= GW
= 'E' and	= GW	and = 'CC' or 'NP'	= GWP
Blank and	= SW	and not 'CC' or 'NP'	= SW
Blank and	= SW	and = 'CC' or 'NP'	= SWP
Blank and	= GU	and not 'CC' or 'NP'	= GU
Blank and	= GU	and = 'CC' or 'NP'	= GUP
Blank and	= GW	and not 'CC' or 'NP'	= GW
Blank and	= GW	and = 'CC' or 'NP'	= GWP

**Exhibit B-5. Water System Primary Source Type Matrix**

<u>Availability Code</u>	<u>Water Type Code</u>	<u>Type Code</u>
P = Permanent	SW = Surface Water	CC = Consecutive Connection
S = Seasonal	GW = Groundwater	NP = Non-Piped
I = Interim	GU = Groundwater Under	
O = Other	Influence of Surface Water	
E = Emergency		

#### D\_FED\_PRIMARY\_SOURCE\_CODE

SWF = Surface Water

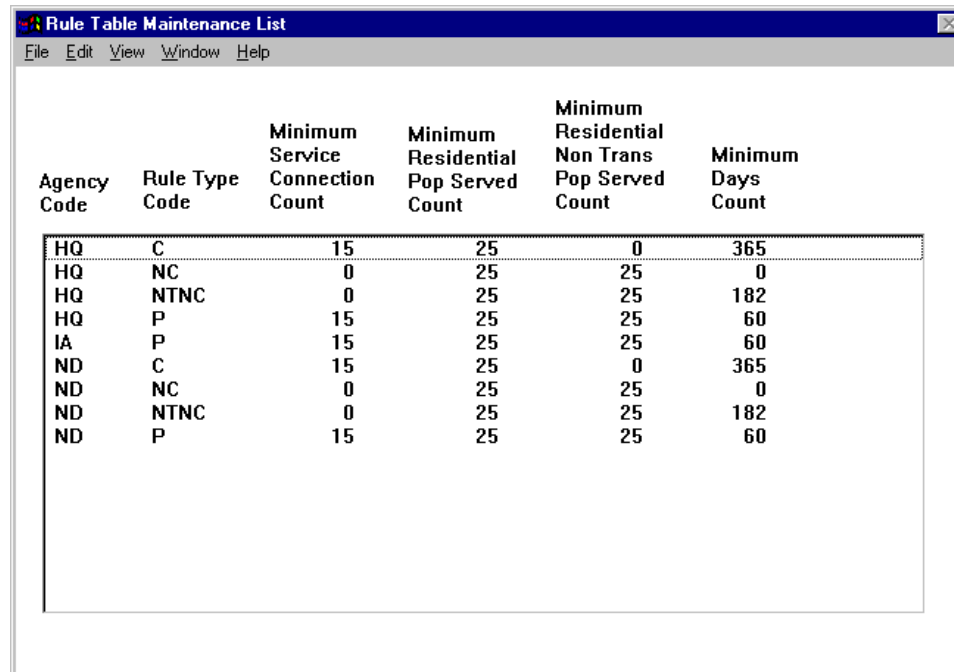
SWP = Surface Water - Purchased

#### Primacy Rules

The *System Administration* component maintains the primacy rule data used to determine federal and state water system classifications. In this component, *only the state rules can be modified*. HQ rows represent the minimum regulatory criteria for classifying water systems.

The Rule Table Maintenance window allows the SDWIS/STATE Administrator to modify the state rule table (Exhibit B-6). This table contains the rules used to assign the state water system type codes. Entries in this table define the limits used to identify water systems as public water systems and further categorize them into each of three possible types: community, transient non-community, and non-transient non-community. Each row in the table defines the limits for one category within one government entity.

The government agency that defined each rule is identified in a separate attribute in the same table. The table contains “HQ” for the federal government rules and the 2-character U.S. Postal State Code for the state-defined rules. In the Exhibit B-6, you see four “HQ” rows, four “ND” rows, and one “IA” row. The ND rows represent rules for classification in North Dakota. The IA row establishes the capability to enter basic information about “Seller” water systems that are located in Iowa but sell to systems in North Dakota. This is an exaggerated example that displays the entry flexibility of Non-HQ rows.



Agency Code	Rule Type Code	Minimum Service Connection Count	Minimum Residential Pop Served Count	Minimum Residential Non Trans Pop Served Count	Minimum Days Count
HQ	C	15	25	0	365
HQ	NC	0	25	25	0
HQ	NTNC	0	25	25	182
HQ	P	15	25	25	60
IA	P	15	25	25	60
ND	C	15	25	0	365
ND	NC	0	25	25	0
ND	NTNC	0	25	25	182
ND	P	15	25	25	60

**Exhibit B-6.** Rule Table Maintenance

SDWIS/STATE also automates the determination of the Primary Source Type code that is used by states to further classify and regulate water systems. See Exhibit B-5 for details on the calculation of this attribute.

The attribute D\_Fed\_Primary\_Source\_Code is also forwarded to SDWIS/FED using the Migration to SDWIS/FED (MTF) software. This is explained further in the SDWIS/STATE System Administration Guide in Chapter 4, Exhibit 4-10.

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# Appendix C: Total Coliform Rule (TCR)

SDC-0002-017-CW-2018A  
April 14, 2000

## Coliform Sampling

SDWIS/STATE conducts Total Coliform Rule (TCR) sample scheduling and non-compliance determination for qualified public water systems. Each time the inventory of a water system changes or when positive coliform samples and results are entered, SDWIS/STATE attempts to revise the sample schedule and to perform acute Maximum Contaminant Level (MCL) calculations.

If there are inventory changes that would increase or decrease the required number or frequency of TCR samples, SDWIS/STATE will perform the necessary change automatically. The state has the opportunity to change the schedules, based on state-specific rules or policy. The baseline requirements, according to the federal rules for TCR monitoring, are contained in 40CFR 141.21.

The table below, an excerpt from the federal rules, is provided to assist your determination of the basic TCR sample scheduling requirements for your water systems. Note that the table establishes the baseline requirement for Community Water Systems, and Non-Community surface water systems. Reduced sampling is automated for small non-community systems (serving less than 1,001 people) that have only protected groundwater sources. Other discretionary decisions must be implemented manually by the state in the TCR scheduling maintenance module in SDWIS/STATE.

### 40CFR 141.21 (excerpt)

(a) *Routine monitoring.* (1) Public water systems must collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan. These plans are subject to State review and revision.

(2) The monitoring frequency for total coliforms for community water systems is based on the population served by the system, as follows:

#### TOTAL COLIFORM MONITORING FREQUENCY FOR COMMUNITY WATER SYSTEMS

Population Served	Minimum Number of Samples Per Month
25 to 1,000 <sup>1</sup> .....	1
1,001 to 2,500 .....	2
2,501 to 3,300 .....	3
3,301 to 4,100 .....	4
4,101 to 4,900 .....	5
4,901 to 5,800 .....	6
5,801 to 6,700 .....	7
6,701 to 7,600 .....	8
7,601 to 8,500 .....	9
8,501 to 12,900 .....	10

Population Served	Minimum Number of Samples Per Month
12,901 to 17,200 .....	15
17,201 to 21,500 .....	20
21,501 to 25,000 .....	25
25,001 to 33,000 .....	30
33,001 to 41,000 .....	40
41,001 to 50,000 .....	50
50,001 to 59,000 .....	60
59,001 to 70,000 .....	70
70,001 to 83,000 .....	80
83,001 to 96,000 .....	90
96,001 to 130,000 .....	100
130,001 to 220,000 .....	120
220,001 to 320,000 .....	150
320,001 to 450,000 .....	180
450,001 to 600,000 .....	210
600,001 to 780,000 .....	240
780,001 to 970,000 .....	270
970,001 to 1,230,000 .....	300
1,230,001 to 1,520,000 .....	330
1,520,001 to 1,850,000 .....	360
1,850,001 to 2,270,000 .....	390
2,270,001 to 3,020,000 .....	420
3,020,001 to 3,960,000 .....	450
3,960,001 or more .....	480

<sup>1</sup> Includes public water systems which have at least 15 service connections, but serve fewer than 25 persons.

## Coliform MCL

TCR MCL violations (type 21) are determined by SDWIS/STATE automatically upon entry of appropriate positive samples (e.g., fecal positive repeat samples). You can choose to determine “potential” TCR MCL violations (type 22) by running the Precompliance function in the *Monitoring and Noncompliance Determination* component, or by generating actual violations (that require validation) using the Noncompliance module in that component. The following excerpt from the federal rule is provided to assist you.

### 40CFR 141.63 (excerpt)

141.63 Maximum Contaminant Levels (MCLs) for microbiological contaminants.

(a) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system which collects fewer than 40 samples/month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive *E. coli*-positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in 141.32, this is a violation that may pose an acute risk to health.

### TCR Sample Schedule—Automated Temporary Routine

The TCR requires small water systems to collect additional samples in monitoring periods following those periods in which positive coliform results were detected. The rule states the following:

#### 40CFR141.21.b.5 (excerpt - edited for clarity)

If a system collecting fewer than five **routine** samples per month has one or more total coliform (TC) positive samples and the state does not invalidate the samples under paragraph (c) of this section, it must collect at least five routine samples during the next month the system provides water to the public, except that the state may waive the requirement if the conditions of paragraph (b.5.i or ii) of this section are met. The state cannot waive the requirement to collect **repeat** samples in paragraphs (b.1.-4) of this section.

The application allows the state to deviate schedules which are automatically created by the system—in which case they would be taking advantage of the discretionary authority given in the rule above to waive the requirement for additional routine samples. However, in the instance when the state chooses not to deviate (or waive) an automatically created schedule, TCR non-compliance determination looks for additional routine samples during the month following a positive result. These additional samples are called **temporary routine** samples.

As stated in the rule, temporary routine samples are required when systems collecting fewer than five routine samples per month detect a positive TC result in any of their samples. This, by default, includes any routine (**replacement** or **invalid replacement**) or repeat sample. Results can be positive for TC or fecal coliform/*E. coli*, although we do not expect to see positive fecal coliform/*E. coli* results in negative TC samples.

The scheduling function in the application is based on certain assumptions about the data and interpretations of the TCR. Some agencies or jurisdictions may have problems with these assumptions and interpretations. As these issues arise, they should be communicated to EPA or to the System Development Team at the address listed in Chapter 1.

The basic assumption surrounding a water system is that the data are correct and sufficient to support the automated scheduling of TCR samples for water systems within a jurisdiction. Another assumption is that monitoring periods are based on calendar months, beginning with the first day of the month and ending with the last day (e.g., January 1–31 is a calendar month).

Quarters are assumed to follow conventional calendar quarter periods, i.e., January 1–March 31, April 1–June 30, July 1–September 30, and October 1–December 31.

The application interprets the rule’s statement that “systems collecting fewer than five routine samples per month” to mean systems that serve fewer than 4,101 persons. This population data is derived from SDWIS-registered data of the total of population(s) served, including all residential and non-residential populations. This interpretation also includes systems qualified for reduced monitoring (less than monthly) such as quarterly or yearly.

Table C-1 contains examples of the implementation of the temporary routine requirement for five hypothetical water systems through the end of the third quarter.

### TCR Sample Schedule—Repeat, Replacement, and Special Samples

The TCR requires water systems to collect additional samples within monitoring periods following positive routine sample results. The rule states the following:

#### 40CFR141.21.a.6 (excerpt - edited for clarity)

Special purpose samples, such as those taken to determine whether disinfection practices are sufficient . . . shall not be used to determine compliance . . . repeat samples . . . are not considered special purpose samples and must be used to determine compliance with the MCL (maximum contaminant level). . . .

#### 40CFR141.21.b (excerpt - edited for clarity)

- (1) If a **routine** sample is total coliform positive (TC+), the water system must collect a set of **repeat** samples within 24 hours of being notified of the positive result. A system that collects more than one routine sample per month must collect no fewer than three repeat samples for each TC+ sample found. A system that collects one routine sample per month must collect no fewer than four repeat samples for each TC+ sample found. The state may extend the 24-hour limit on a case-by-case basis if the system has a logistical problem (beyond its control) in collecting repeat samples within 24 hours.

Examples	M1	Quarter 1		M3	Quarter 2		M6	M7	Quarter 3		M9
	S R	M2 S R		S R	M4 S R	M5 S R	S R	S R	M8 S R		S R
WS 1	1/Q TC+	TR5 TC-		- -	1/Q -	1/Q -	1/Q TC+	TR5 TC-	Done for the quarter		
WS 2	1/Q TC+	TR5 TC+		TR5 TC+	TR5 TC-	Done for the quarter		1/Q TC-	Done for the quarter		
WS 3	<5/M TC+	TR5 TC+		TR5 TC-	<5/M TC-	<5/M TC-	<5/M TC+	TR5 TC-	<5/M TC-		<5/M TC-
WS 4	1/Y TC+	TR5 TC+		TR5 TC-	Done for the year						
WS 5	1/Y -	1/Y -		1/Y -	1/Y TC-	Done for the year					

### Key to the table

- M month (i.e., M1, M2, M3, etc.)  
 S number of routine samples scheduled for the month  
 R TCR results  
 WS water system (i.e., WS 1, WS 2, etc.)  
 1/Q scheduled for 1 routine sample per quarter  
 <5/M scheduled for less than 5 routine samples per month (systems serving less than 4,101 people)  
 1/Y scheduled for 1 routine per year (not automated)  
 TC+ positive TC sample; could be any of the following:  
     routine; repeat; replacement, i.e., lost, broken, etc.; or invalid replacement, i.e., lab error, etc.  
 TC- no coliforms detected in any samples during this monitoring period  
 TR5 reset temporary routine schedule to 5 samples per month  
 - no samples required or scheduled; no samples taken

**Table C-1.** Examples of Temporary Routine Requirements

- (2) The system must collect at least one repeat sample from the sampling tap where the **original** TC+ sample was taken and at least one repeat sample within five service connections downstream and upstream of the original sampling site. (This criterion is unofficially called “streamness.”)
- (3) The system must collect all the repeat samples on the same day, except that the state may allow a system with only one service connection to collect the samples over a 4-day period or the system may collect a single 400 mL repeat sample.
- (4) If one or more repeat samples is TC+, the water system must collect an additional set of repeat samples in the manner specified in (b.1-3) of this section. The system must repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms in 141.63 has been exceeded and notifies the state.

Temporary routine samples are explained in a separate section above.

The application handles these situations according to the following criteria:

- (1) The application differentiates the requirement for three versus four **repeat** samples. This determination is based on the population served (see the table in CFR 141.21.a.2). Systems serving less than 1,001 people are automatically scheduled by the application to collect four repeat samples upon detection of TC+. Other systems are scheduled to collect three repeat samples. The application does not enforce the 24-hour rule for collection of repeat samples.
- (2) The application enforces streamness in that repeat samples must be correctly related to the original routine sample in order for water systems to get credit for repeat sampling in Non-Compliance Determination. **Replacement** samples collected to replace a compliance sample can and should be related to the compliance sample, just like repeats.
- (3) The application does not automatically accommodate **repeat** sampling deviations for systems with a single service connection. These systems must have schedule deviations created for them specifically by the state.
- (4) **Positive repeat** samples automatically generate additional repeat sample schedules until no more TC+ results are detected or until an (acute) MCL violation occurs.
- (5) The following types of samples, if they have valid results, are factored into the total number of samples for MCL and monitoring compliance determination: Routine-RT (use this type for both normal routines and temporary routines) and Repeat-RP. There are only two valid results: TC-present and TC-absent.
- (6) With invalid results, such as “Too Numerous to Count,” “Confluent Growth,” or “Turbid Culture,” coliform organisms may be present but the state must select the presence button (“P”) to create a TC+ result in the application. The application does not assume presence for these conditions.

# Appendix D: Additional Help for Noncompliance Determination

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SDC-0002-017-CW-2018A  
April 14, 2000

The following graphics describe the steps involved in successful noncompliance determination. Setting up the database is the most difficult step. Once this setup is completed properly, noncompliance tasks should not be burdensome.

## General Tips

Make good use of government agency access. This access is important for the actual noncompliance executions. Keep government agency groups manageable.

Make good use of dynamic and static water system groups because they are important for preliminary noncompliance. Keep groups small and ensure that they are distinguishable and stable.

To set up the database properly, you will need to follow some basic steps using the *System Administration*, *Legal Entity*, and *Inventory* components. If you are designated as a SDWIS/STATE Administrator (SA), you have access to all the necessary components. If you are not a designated SA, you will have access to some, but not all of the necessary areas, and you will need the assistance of the SA.

First, double-click on the Legal Entities icon in your SDWIS/STATE program group and select the **Government Agencies** menu item. Search Government Agencies to locate the agency that has primacy. Make sure that at least one—and only one—of your state’s government agencies has the Primacy Indicator turned on. (Other Government Agencies may have regulatory authority in the state, but only one can have primacy.) The others may include state, regional, or district offices, or county health departments. Each agency for which you wish to assign Total Coliform Rule (TCR) Noncompliance Determination (NCD) authority must be displayed in the Government Agency list of the *Legal Entity* component.

If you want to assign users to additional government agencies, select **Edit/User Accounts/Maintain User** from the *System Administration* main menu. Upon entering the User’s name, address, and Type (System Administrator, Compliance, Data Entry, Public), select the **OK** button. At this point, the Government Agency Selection List appears, and you can select the government agency for which the selected SDWIS/STATE user works. The User can work for one or more government agencies but must work for at least one agency that has been given regulatory authority to conduct TCR NCD.

Next, select **Edit/Rule Authority** from the SDWIS/STATE *System Administration* main menu. This brings up the Rule Selection List, a list of federal drinking water rules that states usually wish to enforce. The Total Coliform Rule is on the list. Select the Total Coliform Rule. This selection flows you to the Current Rule Assignment List where you may select **Edit/Assign** for each Government Agency for which you want to run TCR NCD. At a minimum, you should select the primacy agency at this time.

Finally, you will need to make either a Government Agency or Water System Group “current.” This means that you are telling SDWIS/STATE to help focus your view of water systems by either a Government Agency (typically the primacy agency when you are first setting up your database) or a Water System Group that you create.

Once you have completed these steps, SDWIS/STATE users that are designated Compliance users can conduct TCR NCD and enter violations and enforcement actions. You should however, be careful that you are doing the NCD work against water systems for which you have authority. Some states establish authority to oversee water systems for users on a geographic basis. This could be based on a state, region, or district. When this situation arises, the SA should make sure that the appropriate Government Agencies (GOVAGs) exist in *Legal Entities*, and that they have User/Rule/GOVAG assigned in *System Administration*.

Once the necessary relationships are established in *Legal Entities* and *System Administration*, you or the SA can create relationships between Water System and GOVAG (called “Regulating Agency”) in the *Inventory* component. To do this, first create a Water System Group (explained in Chapter 4) that includes the systems you oversee. Then make the Group current. After the group is made current, enter the record for each water system in the Group and assign the Regulating Agency to the system. In the *Inventory* Main window, select **Edit/Maintain Water System**, then **Search**, to reach the “10 button” window for each water system in the Group. In the Regulating Agency Maintenance List, select **Edit/Add** to bring up the list of GOVAGs that have been assigned to Users and Rules in the *System Administration* component.

Once each desired water system has been assigned to the appropriate Regulating Agency (GOVAG) in *Inventory*, you can run TCR precompliance or NCD against that water system, the water system group, or the Government Agency. See Chapter 6 for details.



**Step 1. Government Agency Maintenance**

*Select Edit/Legal Entity from the Legal Entity Maintenance main window.*

*Select "Government Agency," then click on Search.*

The screenshot shows a "Legal Entity Search" dialog box. It has a title bar with a close button. The dialog is divided into two main sections. The first section, "Starting criteria...", contains a text input field labeled "Name". Below this is the text "and/or". The second section, "Filtering Criteria...", contains a label "Legal Entity Type" followed by a dropdown menu currently showing "GOVERNMENT AGENCY". At the bottom of the dialog are three buttons: "Search", "Cancel", and "Help".

The screenshot shows two overlapping windows from a software application. The background window is titled "Legal Entity Maintenance List" and contains a table with three columns: "Name", "Phone", and "Type". The table lists various entities, including "ADAMS CITY OF", "ENVIRONMENTAL PROTECTION AGENCY", and several "ND STATE ADMINISTRATIVE DISTRICT" and "REGION" entries. The foreground window is titled "Government Agency Maintenance" and has a "CHANGE Maintenance Action" header. It contains several input fields and dropdown menus for entering agency information.

Name	Phone	Type
A83		GA
A84		GA
A9		GA
ADAMS CITY OF	701-944-2436	GA
ENVIRONMENTAL PROTECTION AGENCY	202-260-2799	GA
MY TEST FOR 5.295B	703-908-2004	GA
ND STATE ADMINISTRATIVE DISTRICT 00		GA
ND STATE ADMINISTRATIVE DISTRICT 01		GA
ND STATE ADMINISTRATIVE DISTRICT 02		GA
ND STATE ADMINISTRATIVE DISTRICT 03		GA
ND STATE ADMINISTRATIVE DISTRICT 04		GA
ND STATE ADMINISTRATIVE DISTRICT 05		GA
ND STATE ADMINISTRATIVE DISTRICT 06		GA
ND STATE ADMINISTRATIVE DISTRICT 07		GA
ND STATE ADMINISTRATIVE DISTRICT 08		GA
ND STATE ADMINISTRATIVE DISTRICT 09		GA
ND STATE ADMINISTRATIVE REGION 01		GA
ND STATE ADMINISTRATIVE REGION 02		GA
ND STATE ADMINISTRATIVE REGION 03		GA

*Add the relevant information about the new government agency, and then click on OK.*

*If the desired government agency is not in the list, select Edit/Add.*

**Government Agency Maintenance**

CHANGE Maintenance Action

Legal Entity Type: GOVERNMENT AGENCY External System Number: 2713

Sub-type Code: COMMISSION EPA Region: [ ]

Employer ID No. [ ] ☐ Primacy Indicator

Administrative ID Number: 09

Name: ND STATE ADMINISTRATIVE DISTRICT 09

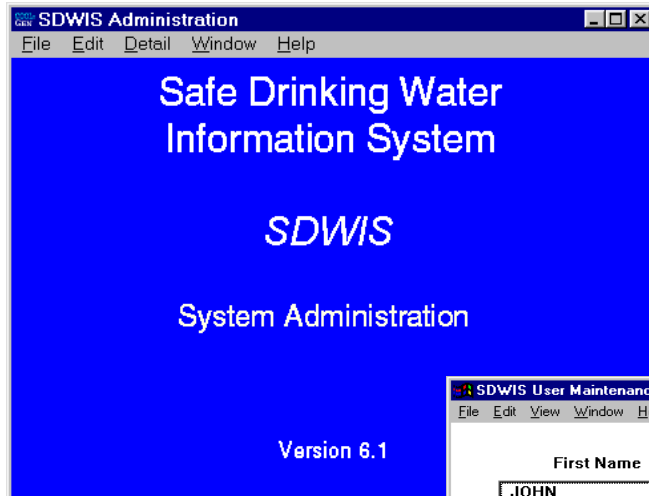
Alias Name: [ ] Phone Number: [ ]

Address Line One: [ ]

Address Line Two: [ ]

City: [ ] State: [ ] Zip: [ ]

OK Cancel Help

**Step 2. User Access to Government Agencies**

*Note that this step should be performed by the SDWIS/STATE Administrator. Select **Edit/User Accounts/Maintain User** from the main menu of System Administration.*

*Select the user's name and then select **Edit/Change Govt Agency Access**.*

First Name	Last Name	Type	User ID
JOHN	HOLCOMB	D	68743521
JOHN	HOMELVIG	C	JOHN
SS	HOPPER	C	SS
IT_OM_NDV52	IT_OM_NDV52	S	IT_OM_ND
KELLI	JOHNSON	D	S
D. WAYNE	KERN	C	WAYNE
TIM	LERNER	S	TIM
JACK	LONG	C	JACK
RANDALL	PFIEFER	S	RANDYP
GARY	STEFANOVSKY	C	GARYS
CURT	STEIER	C	CURTS
GREGG	STEWART	C	GREGG
LARRY	THELEN	C	LARRY
TEST	USER	D	ERSE
JENI	WALSH	C	JENI
SHERWIN	WANNER	S	SHERWIN
GREG	WAVRA	C	GREGW
JOSIE	WOODS	S	JWOODS

**User**

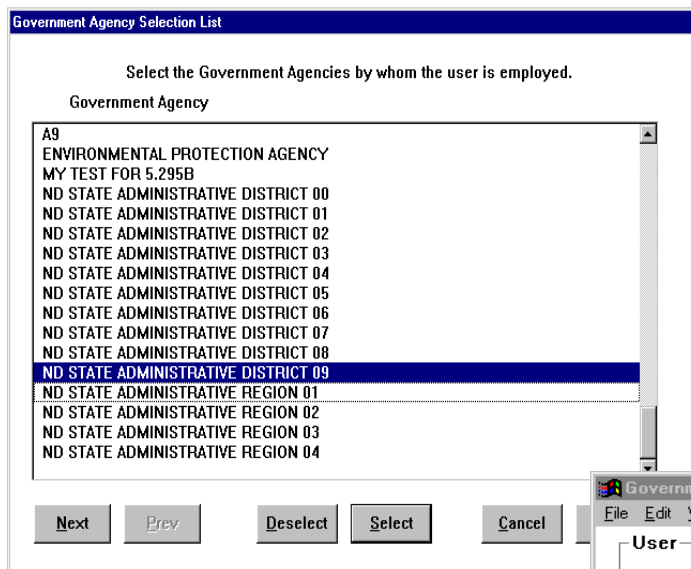
First Name GREGG  
Last Name STEWART  
User ID GREGG

This user has access to Water Systems which are regulated by the following Government Agencies:

**Government Agency**

ND STATE ADMINISTRATIVE DISTRICT 09  
STATE DEPARTMENT OF HEALTH

*Select **Edit/Add** from this window to bring up the list of government agencies—including the one just added.*



Government Agency Selection List

Select the Government Agencies by whom the user is employed.

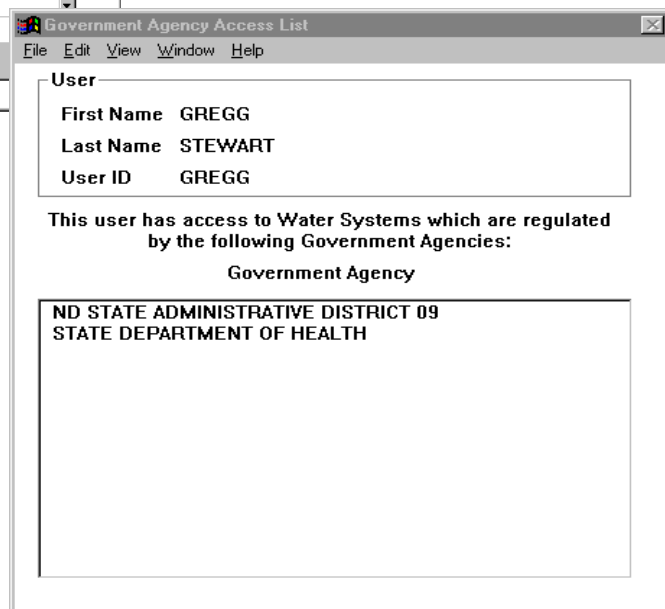
Government Agency

- A9
- ENVIRONMENTAL PROTECTION AGENCY
- MY TEST FOR 5.295B
- ND STATE ADMINISTRATIVE DISTRICT 00
- ND STATE ADMINISTRATIVE DISTRICT 01
- ND STATE ADMINISTRATIVE DISTRICT 02
- ND STATE ADMINISTRATIVE DISTRICT 03
- ND STATE ADMINISTRATIVE DISTRICT 04
- ND STATE ADMINISTRATIVE DISTRICT 05
- ND STATE ADMINISTRATIVE DISTRICT 06
- ND STATE ADMINISTRATIVE DISTRICT 07
- ND STATE ADMINISTRATIVE DISTRICT 08
- ND STATE ADMINISTRATIVE DISTRICT 09**
- ND STATE ADMINISTRATIVE REGION 01
- ND STATE ADMINISTRATIVE REGION 02
- ND STATE ADMINISTRATIVE REGION 03
- ND STATE ADMINISTRATIVE REGION 04

Next Prev Deselect Select Cancel

*Select the desired government agency, and then click on Select.*

*This user now has access to water systems regulated by "ND STATE ADMINISTRATIVE DISTRICT 09." Later, you can add one or more water systems to this agency.*



Government Agency Access List

File Edit View Window Help

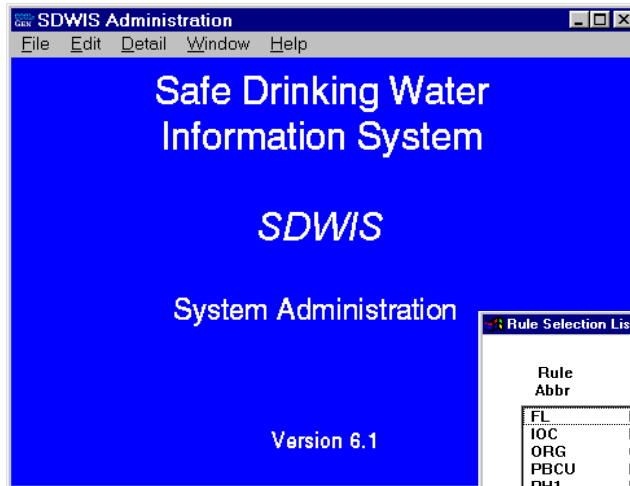
User

First Name GREGG  
Last Name STEWART  
User ID GREGG

This user has access to Water Systems which are regulated by the following Government Agencies:

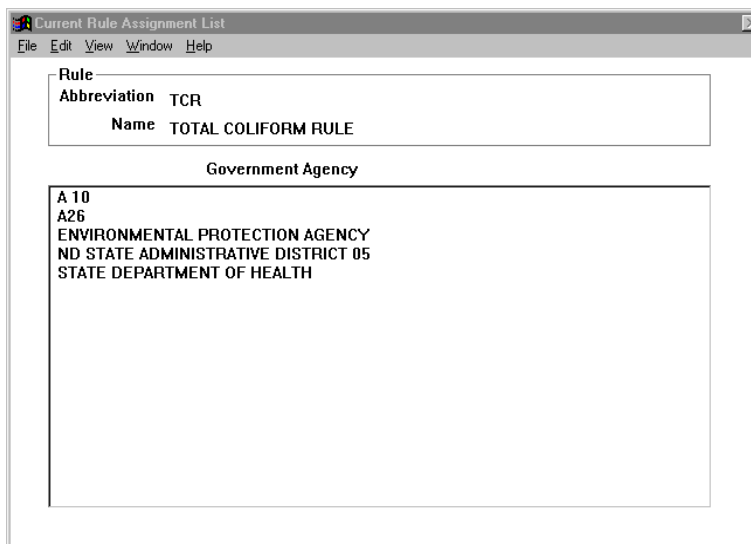
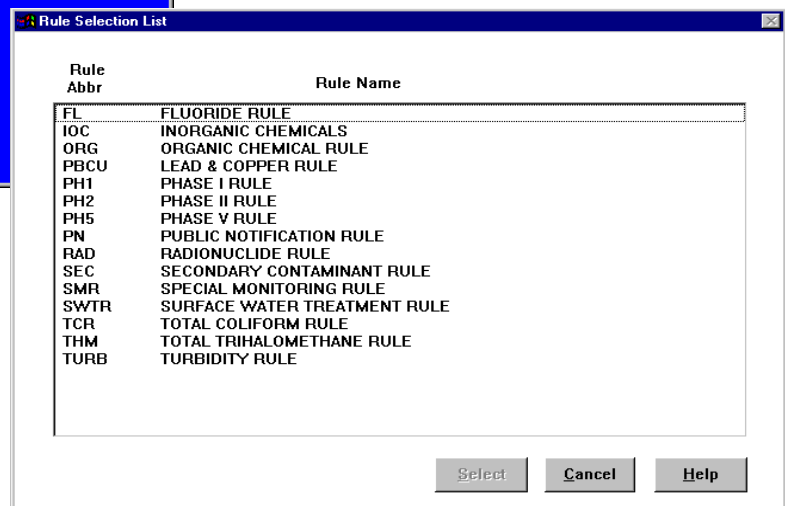
Government Agency

- ND STATE ADMINISTRATIVE DISTRICT 09
- STATE DEPARTMENT OF HEALTH

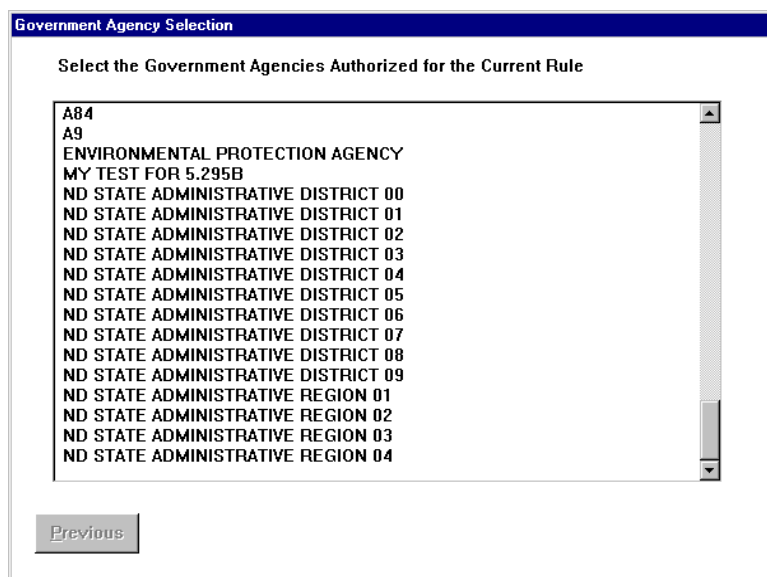
**Step 3. Assigning Rule Authority**

*Note that these steps should be performed by the SDWIS/ STATE Administrator. Select **Edit/Rule Authority** in System Administration.*

*Select the rule for which the government agency has regulatory authority and click on **Select**.*



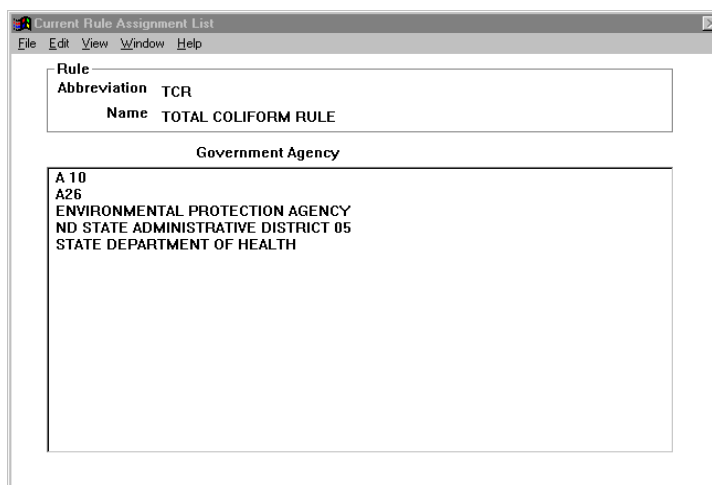
*Since the government agency added in Step 1 is not in this list, select **Assign** from the **Edit** menu.*



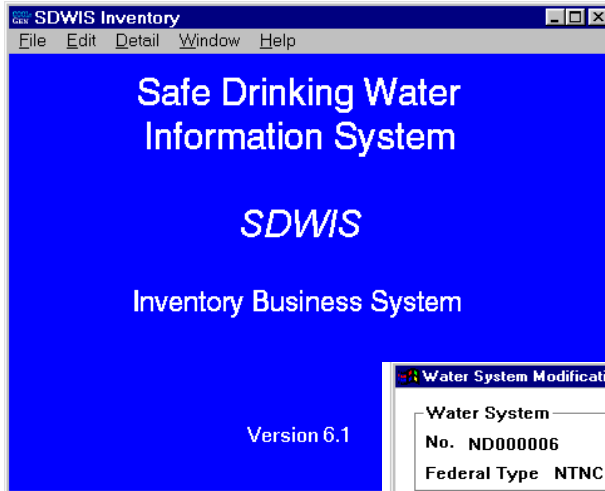
The dialog box is titled "Government Agency Selection" in a blue header bar. Below the header, the text "Select the Government Agencies Authorized for the Current Rule" is displayed. A list box contains the following items: A84, A9, ENVIRONMENTAL PROTECTION AGENCY, MY TEST FOR 5.295B, ND STATE ADMINISTRATIVE DISTRICT 00, ND STATE ADMINISTRATIVE DISTRICT 01, ND STATE ADMINISTRATIVE DISTRICT 02, ND STATE ADMINISTRATIVE DISTRICT 03, ND STATE ADMINISTRATIVE DISTRICT 04, ND STATE ADMINISTRATIVE DISTRICT 05, ND STATE ADMINISTRATIVE DISTRICT 06, ND STATE ADMINISTRATIVE DISTRICT 07, ND STATE ADMINISTRATIVE DISTRICT 08, ND STATE ADMINISTRATIVE DISTRICT 09, ND STATE ADMINISTRATIVE REGION 01, ND STATE ADMINISTRATIVE REGION 02, ND STATE ADMINISTRATIVE REGION 03, and ND STATE ADMINISTRATIVE REGION 04. A "Previous" button is located at the bottom left of the dialog box.

*Find the correct government agency, select it, and click on Select.*

*You can now execute Noncompliance Determination for the Total Coliform Rule (TCR) against the water systems regulated by this government agency.*



The window is titled "Current Rule Assignment List" and has a menu bar with "File", "Edit", "View", "Window", and "Help". It contains two main sections. The first section, labeled "Rule", has two fields: "Abbreviation" with the value "TCR" and "Name" with the value "TOTAL COLIFORM RULE". The second section, labeled "Government Agency", contains a list box with the following items: A 10, A26, ENVIRONMENTAL PROTECTION AGENCY, ND STATE ADMINISTRATIVE DISTRICT 05, and STATE DEPARTMENT OF HEALTH.

**Step 4. Maintaining Regulating Agency**

*Select Edit/Maintain Water Systems in Inventory and then select a water system.*

*On the Water System Modification window, click on Regulating Agency.*

**Water System**

No. ND000006      Name NTNC6  
Federal Type NTNC      State Type NTNC      Primary Source GW

Last Inventory Update

Select Type of Information to Modify

<input type="checkbox"/> Basic Information	<input type="checkbox"/> Points of Contact
<input type="checkbox"/> Population Served	<input type="checkbox"/> Regulating Agency
<input type="checkbox"/> Service Area Characteristics	<input type="checkbox"/> Water Purchases
<input type="checkbox"/> Related Geographic Areas	<input type="checkbox"/> Water System Facilities
<input type="checkbox"/> Service Connections	<input type="checkbox"/> Sampling Point

Select Water System      Classification Data      Exit      Help

*Select Edit/Add to add the new government agency to the list.*

**Regulating Agency Maintenance List**

File Edit View Window Help

**Water System**

No. ND000006      Name NTNC6  
Federal Type NTNC      State Type NTNC      Primary Source GW

Regulating Agency Name	Active	Ext Sys No.
ND STATE ADMINISTRATIVE DISTRICT 08	A	3663
ND STATE ADMINISTRATIVE REGION 03	A	3664

**Regulating Agency List**

Select a Regulating Agency to assign to the Water System:

Name	Type	Admin ID No.
ND STATE ADMINISTRATIVE DISTRICT 05	SA	05
ND STATE ADMINISTRATIVE DISTRICT 06	SA	06
ND STATE ADMINISTRATIVE DISTRICT 07	SA	07
ND STATE ADMINISTRATIVE DISTRICT 08	SA	08
ND STATE ADMINISTRATIVE DISTRICT 09	SA	09
ND STATE ADMINISTRATIVE REGION 01	SR	01
ND STATE ADMINISTRATIVE REGION 02	SR	02
ND STATE ADMINISTRATIVE REGION 03	SR	03
ND STATE ADMINISTRATIVE REGION 04	SR	04

Next Prev Select Cancel

Select the regulating agency "ND STATE ADMINISTRATIVE DISTRICT 09" and click on Select.

Select **Active** if the agency is an active regulating agency.

**Regulating Agency Maintenance**

CHANGE Maintenance Action

Water System No. ND000006 Name NTNC6  
Federal Type NTNC State Type NTNC Primary Source GW

Regulating Agency ND STATE ADMINISTRATIVE DISTRICT 08

Alias Name

Govt Agency Type SA EPA Region Administrative ID No. 08

Address Line One

Address Line Two

City State Zip

County FIPS Code State FIPS Code Phone No.

Purpose  ☒ Active

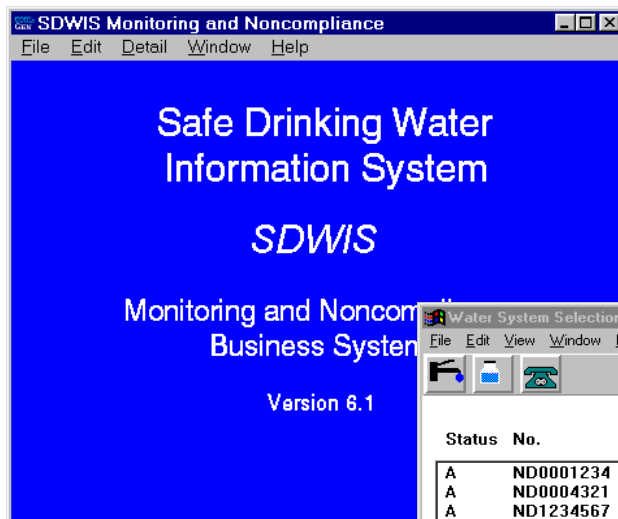
Establishment No.

OK Cancel Help



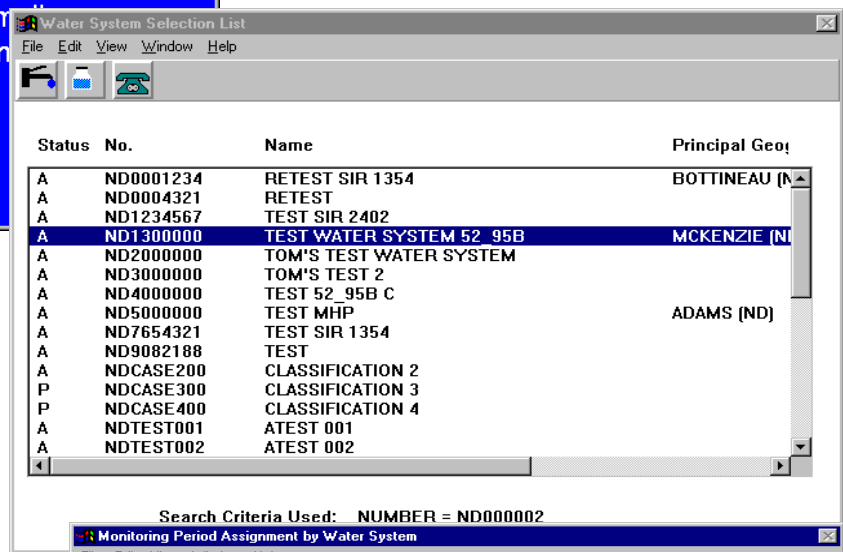
Proceed to Step 5 if you want to maintain rule assignments and monitoring periods for a specific water system. If you want to assign a monitoring period to an entire group at once, skip Step 5 and proceed to Step 6. Assigning monitoring periods to a water system group is helpful when a new rule must be assigned for the first time or when new monitoring periods have been created and need to be assigned.

### Step 5. Assigning Monitoring Periods by Water System

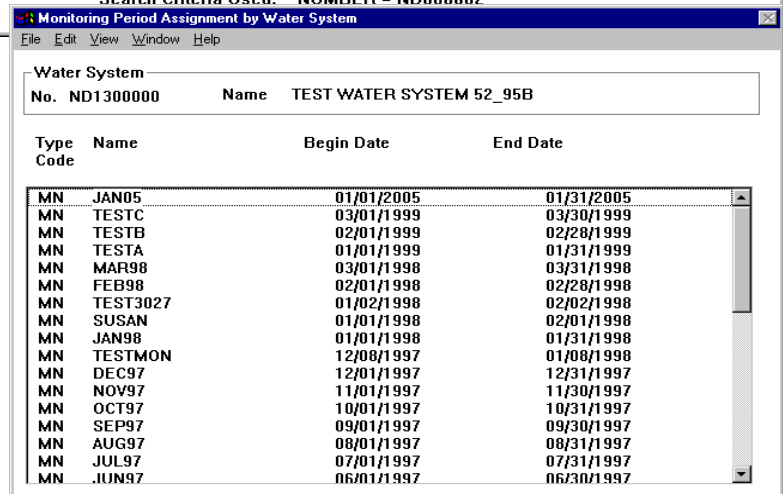


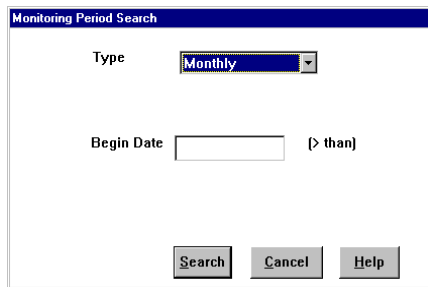
*Choose a water system from the Water System Selection List.*

*In Monitoring and Noncompliance, select Edit/Planning/Monitoring Periods by Water System from the main menu.*



*To make sure that the water system you select is associated with a monitoring period, select Edit/Assign.*





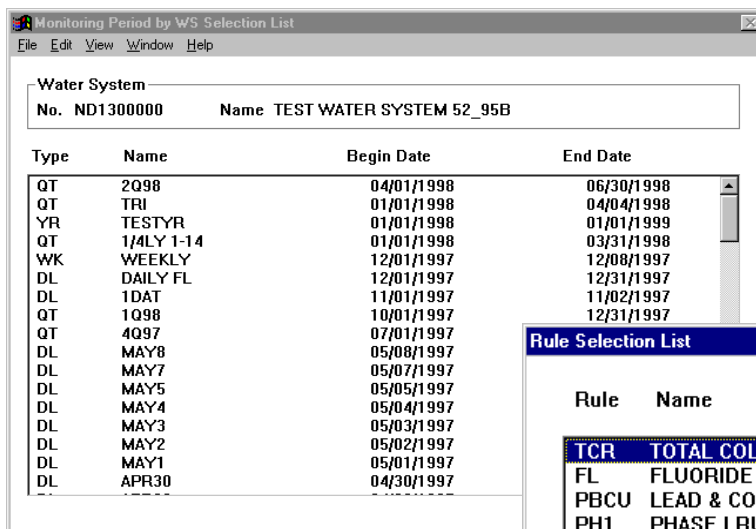
Monitoring Period Search

Type: **Monthly**

Begin Date:  (> than)

Search Cancel Help

Choose the type of monitoring period to assign from the drop-down list. The user can also filter by beginning date. Click on Select.



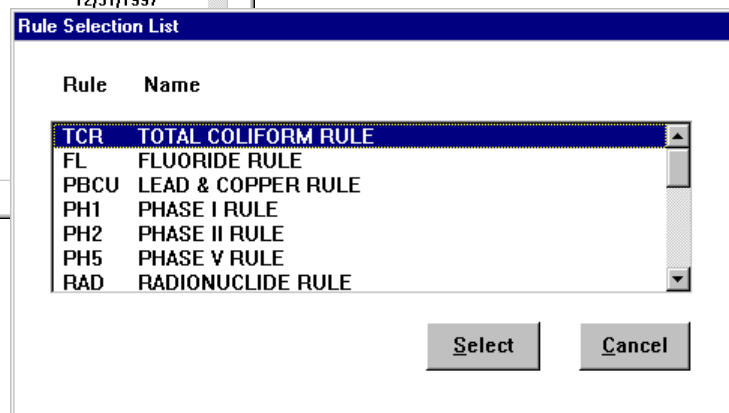
Monitoring Period by WS Selection List

Water System  
No. ND1300000 Name TEST WATER SYSTEM 52\_95B

Type	Name	Begin Date	End Date
QT	2Q98	04/01/1998	06/30/1998
QT	TRI	01/01/1998	04/04/1998
YR	TESTYR	01/01/1998	01/01/1999
QT	1/4LY 1-14	01/01/1998	03/31/1998
WK	WEEKLY	12/01/1997	12/08/1997
DL	DAILY FL	12/01/1997	12/31/1997
DL	1DAT	11/01/1997	11/02/1997
QT	1Q98	10/01/1997	12/31/1997
QT	4Q97	07/01/1997	
DL	MAY8	05/08/1997	
DL	MAY7	05/07/1997	
DL	MAY5	05/05/1997	
DL	MAY4	05/04/1997	
DL	MAY3	05/03/1997	
DL	MAY2	05/02/1997	
DL	MAY1	05/01/1997	
DL	APR30	04/30/1997	

A list of choices appears. Select the appropriate period to assign to the water system by clicking on it and selecting Edit/Select.

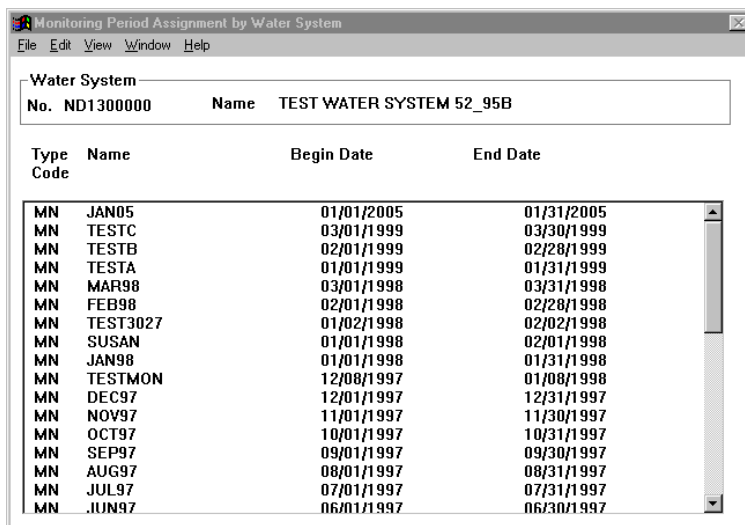
Select the rule for which this monitoring period is appropriate.



Rule Selection List

Rule	Name
<b>TCR</b>	<b>TOTAL COLIFORM RULE</b>
FL	FLUORIDE RULE
PBCU	LEAD & COPPER RULE
PH1	PHASE I RULE
PH2	PHASE II RULE
PH5	PHASE V RULE
RAD	RADIONUCLIDE RULE

Select Cancel

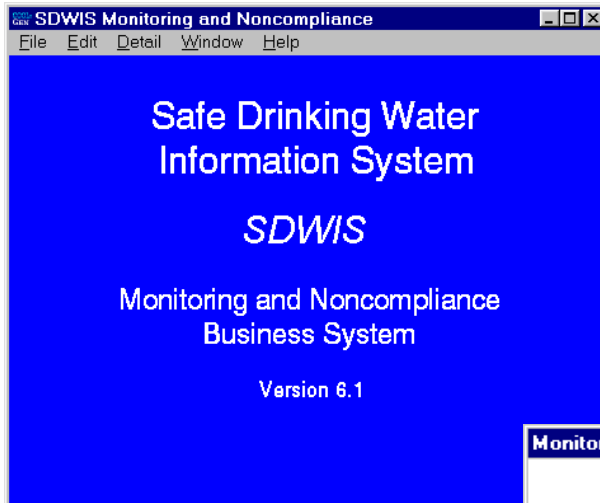


Monitoring Period Assignment by Water System

Water System  
No. ND1300000 Name TEST WATER SYSTEM 52\_95B

Type Code	Name	Begin Date	End Date
MN	JAN05	01/01/2005	01/31/2005
MN	TESTC	03/01/1999	03/30/1999
MN	TESTB	02/01/1999	02/28/1999
MN	TESTA	01/01/1999	01/31/1999
MN	MAR98	03/01/1998	03/31/1998
MN	FEB98	02/01/1998	02/28/1998
MN	TEST3027	01/02/1998	02/02/1998
MN	SUSAN	01/01/1998	02/01/1998
MN	JAN98	01/01/1998	01/31/1998
MN	TESTMON	12/08/1997	01/08/1998
MN	DEC97	12/01/1997	12/31/1997
MN	NOV97	11/01/1997	11/30/1997
MN	OCT97	10/01/1997	10/31/1997
MN	SEP97	09/01/1997	09/30/1997
MN	AUG97	08/01/1997	08/31/1997
MN	JUL97	07/01/1997	07/31/1997
MN	JUN97	06/01/1997	06/30/1997

The water system is now associated with a quarterly monitoring period for TCR.

**Step 6. Assigning Monitoring Periods (to groups)**

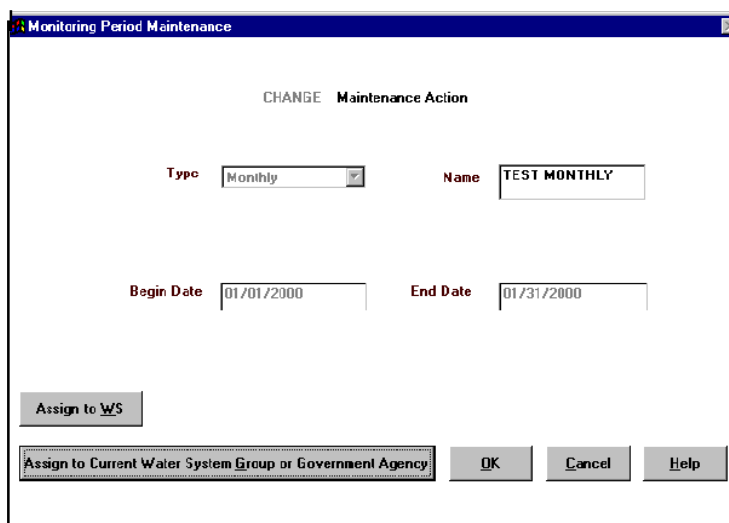
*Before beginning, make sure the correct water system group is current. In Monitoring and Noncompliance, select **Edit/Planning/Monitoring Periods** from the main menu. (This step is an alternative to Step 5 which assigns monitoring periods by water system.)*

*Choose the type of monitoring period to assign. The user can also filter by date. Click on **Search**.*

*Select **Edit/Add** to add a new monitoring period or **Edit/Change** to edit an existing period.*

Type Code	Name	Begin Date	End Date
MN	JAN05	01/01/2005	01/31/2005
MN	TESTC	03/01/1999	03/30/1999
MN	TESTB	02/01/1999	02/28/1999
MN	TESTA	01/01/1999	01/31/1999
QT	2Q98	04/01/1998	06/30/1998
MN	MAR98	03/01/1998	03/31/1998
MN	FEB98	02/01/1998	02/28/1998
MN	TEST3027	01/02/1998	02/02/1998
MN	JAN98	01/01/1998	01/31/1998
QT	TRI	01/01/1998	04/04/1998
MN	SUSAN	01/01/1998	02/01/1998
YR	TESTYR	01/01/1998	01/01/1999
QT	1/4LY 1-14	01/01/1998	03/31/1998
MN	TESTMON	12/08/1997	01/08/1998
MN	DEC97	12/01/1997	12/31/1997
WK	WEEKLY	12/01/1997	12/08/1997
DL	DAILY FL	12/01/1997	12/31/1997
MN	NOV97	11/01/1997	11/30/1997
DL	1DAT	11/01/1997	11/02/1997

*To assign the monitoring period to the entire (current) water system group, click on **Assign to WS Group**. This assignment works for static and dynamic groups only. The button is disabled if a government agency is current.*

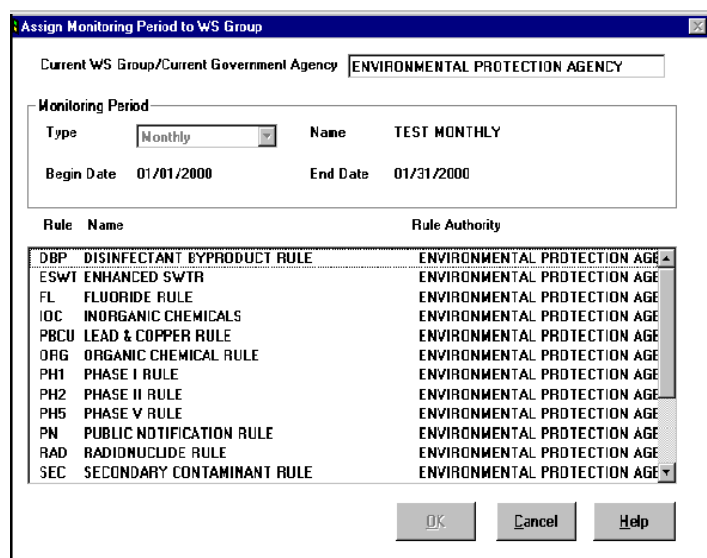


Monitoring Period Maintenance

CHANGE Maintenance Action

Type:  Name:

Begin Date:  End Date:



Assign Monitoring Period to WS Group

Current WS Group/Current Government Agency:

Monitoring Period

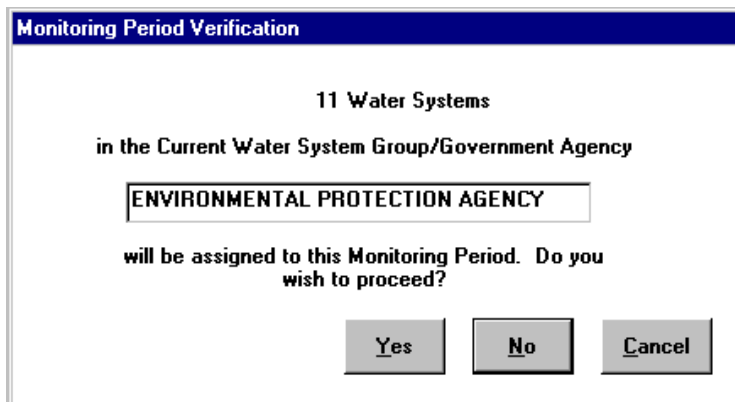
Type:  Name:

Begin Date:  End Date:

Rule	Name	Rule Authority
DBP	DISINFECTANT BYPRODUCT RULE	ENVIRONMENTAL PROTECTION AGE
ESWT	ENHANCED SWTR	ENVIRONMENTAL PROTECTION AGE
FL	FLUORIDE RULE	ENVIRONMENTAL PROTECTION AGE
IOC	INORGANIC CHEMICALS	ENVIRONMENTAL PROTECTION AGE
PBCU	LEAD & COPPER RULE	ENVIRONMENTAL PROTECTION AGE
ORG	ORGANIC CHEMICAL RULE	ENVIRONMENTAL PROTECTION AGE
PH1	PHASE I RULE	ENVIRONMENTAL PROTECTION AGE
PH2	PHASE II RULE	ENVIRONMENTAL PROTECTION AGE
PH5	PHASE V RULE	ENVIRONMENTAL PROTECTION AGE
PN	PUBLIC NOTIFICATION RULE	ENVIRONMENTAL PROTECTION AGE
RAD	RADIONUCLIDE RULE	ENVIRONMENTAL PROTECTION AGE
SEC	SECONDARY CONTAMINANT RULE	ENVIRONMENTAL PROTECTION AGE

*As in the . . . by Water System process, you must select the rule for which this monitoring period applies.*

*The application informs the user of the number of water systems that will be assigned to this monitoring period. If several systems are affected, the process may take a long time to complete.*



Monitoring Period Verification

11 Water Systems

in the Current Water System Group/Government Agency

will be assigned to this Monitoring Period. Do you wish to proceed?

## Appendix E: Sampling Via EDI Structure Set-Formatted File Specification

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SDC-0002-017-CW-2018A  
April 14, 2000

<b>1.0</b>	<b>STRUCTURE SET B_Sample_Sample_Summary</b>	<b>E-1</b>
1.1	B_Sample_Sample_Summary File Layout for Total Coliform	E-1
1.2	B_Sample_Sample_Summary File Layout for Chemical and Lead & Copper	E-7
1.3	B_Sample_Sample_Summary File Layout for Radionuclide	E-13
1.4	B_Sample_Sample_Summary File Layout for Water Quality	E-20
1.5	B_Sample_Sample_Summary File Layout for Sample Summary	E-26
1.6	B_Sample_Sample_Summary Permitted Value List	E-29
1.7	B_Sample_Sample_Summary Mapping to SDWIS/STATE Entities	E-34
1.8	B_Sample_Sample_Summary Definitions	E-37
<b>2.0</b>	<b>STRUCTURE SET B_Result_Summary_Result</b>	<b>E-40</b>
2.1	B_Result_Summary_Result File Layout for Total Coliform Results	E-40
2.2	B_Result_Summary_Result File Layout for Chemical and Lead & Copper Results	E-45
2.3	B_Result_Summary_Result File Layout for Radionuclide Results	E-49
2.4	B_Result_Summary_Result File Layout for Water Quality Results	E-53
2.5	B_Result_Summary_Result File Layout for Summary Results	E-56
2.6	B_Result_Summary_Result Permitted Value List	E-59
2.7	B_Result_Summary_Result Mapping to SDWIS/STATE Entities	E-65
2.8	B_Result_Summary_Result Definitions	E-68

## 1.0 STRUCTURE SET B\_Sample\_Sample\_Summary

If field datum supplied with sample maps to a table that is associated with the Sample in TSASAMPL (see section 18.7) and no record matching supplied field datum exists in the associated table, the fact that the supplied piece of data does not match with a database record will either cause the sample to be rejected (if it is a mandatory piece of data), or the sample will be accepted but will not be associated with the supplied data the SDWIS/STATE database.

Note that edit rules listed in the Optionality column and in the Permitted Value List (where certain values are only accepted as stated) apply to “for compliance” samples, that is, samples where field 13 (B\_Compliance\_Indicator) is “Y”. Setting this indicator to “N” bypasses most of the edit checks imposed on “for compliance” samples except those noted in field 13 as well as the permitted value edit checks for fields that have permitted values (that simply ensure that the permitted value supplied is one of the valid values for that field.)

### 1.1 B\_Sample\_Sample\_Summary File Layout for Total Coliform

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
5.	B_STATE_SAMPLE_NUMBER	AN	20	35-54	OPTIONAL

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
6.	B_WATER_SYSTEM_NUMBER	AN	11	55-65	MANDATORY - Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL
7.	B_STATE_LABORATORY_NUMBER	AN	10	67-76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued. Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77-86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued. Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.



<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87-98	MANDATORY - Must belong to the Water System supplied in <b>field 6 (B_WATER_SYSTEM_NUMBER)</b> .
10.	B_SAMPLING_POINT	AN	11	99-109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
11.	B_SAMPLING_LOCATION	AN	20	110-129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
12. *	B_SAMPLE_CATEGORY	AN	2	130-131	MANDATORY - Must equal "TC" or "MB"

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
13. *	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y". If set to N, sample only needs to have fields (4) B_LAB_SAMPLE_NUMBER, field (7) B_STATE_LABORATORY_NUMBER, field (12) B_SAMPLE_CATEGORY, field (14) B_COLLECTION_DATE, and field (16) B_SAMPLE_TYPE valued to create the sample.  If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.
14.	B_COLLECTION_DATE	DT	8	133-140	MANDATORY - Value must be less than or equal to the current date. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
15.	B_COLLECTION_TIME	TM	6	141-146	OPTIONAL
16. *	B_SAMPLE_TYPE	AN	2	147-148	MANDATORY - If this field is not valued, Migration to SDWIS/STATE will set to "RT" which is defined as "Routine".
17. *	B_REPEAT_LOCATION_CODE	AN	2	149-150	CONDITIONALLY MANDATORY - Must be valued if field 16 (B_SAMPLE_TYPE) = "RP."
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151-158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMBER	AN	5	159-163	NOT USED (Blank Fill)

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
20.	B_COLLECTOR_NAME	AN	40	164-203	OPTIONAL -if supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21. *	B_SAMPLE_VOLUME	AN	9	204-212	OPTIONAL
22. *	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213-215	NOT USED (Blank Fill)
23. *	B_SAMPLE_REJECTION_REASON	AN	2	216-217	OPTIONAL - If this field is valued (e.g. for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218-229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230-249	CONDITIONALLY MANDATORY - This field must be valued if field 16 (B_SAMPLE_TYPE) = "RP" or if field 6.A (B_REPLACEMENT_INDICATOR) = "Y."
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250-269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE	DT	8	270-277	NOT USED (Blank Fill)
28. *	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29. *	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280-283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284-293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294-301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302-309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310-321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322-326	OPTIONAL
36.	B_TOTAL_CHLORINE_RESIDUAL	N	5 (4(2))	327-331	OPTIONAL
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332-335	OPTIONAL

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
38. *	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	CONDITIONALLY MANDATORY - This field must be valued if field 37 (B_SAMPLE_WATER_TEMPERATURE) is valued.
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	OPTIONAL
40.	B_PH_MEASURE	N	5 (4(1))	343-347	OPTIONAL
41.	B_FLOW_RATE	N	8 (7(4))	348-355	OPTIONAL
	FILLER		20	356-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

**1.2 B\_Sample\_Sample\_Summary File Layout for Chemical and Lead & Copper**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
5.	B_STATE_SAMPLE_NUMBER	AN	20	35-54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55-65	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_STATE_LABORATORY_NUMBER	AN	10	67-76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77-86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87-98	MANDATORY - Must belong to the Water System supplied in <b>field 6 (B_WATER_SYSTEM_NUMBER).</b>

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
10.	B_SAMPLING_POINT	AN	11	99-109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
11.	B_SAMPLING_LOCATION	AN	20	110-129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
12. *	B_SAMPLE_CATEGORY	AN	2	130-131	MANDATORY - Must equal "PB" or "CH"

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
13. *	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y". If set to N, sample only needs to have fields (4) B_LAB_SAMPLE_NUMBER, field (7) B_STATE_LABORATORY_NUMBER, field (12) B_SAMPLE_CATEGORY, field (14) B_COLLECTION_DATE, and field (16) B_SAMPLE_TYPE valued to create the sample.  If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample. MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y".
14.	B_COLLECTION_DATE	DT	8	133-140	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
15.	B_COLLECTION_TIME	TM	6	141-146	OPTIONAL
16. *	B_SAMPLE_TYPE	AN	2	147-148	MANDATORY - If this field is not valued, Migration to SDWIS/STATE will set to "RT" which is defined as "Routine".
17. *	B_REPEAT_LOCATION_CODE	AN	2	149-150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151-158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159-163	NOT USED (Blank Fill)

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.



<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
20.	B_COLLECTOR_NAME	AN	40	164-203	OPTIONAL - if supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21. *	B_SAMPLE_VOLUME	AN	9	204-212	NOT USED (Blank Fill)
22. *	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213-215	OPTIONAL
23. *	B_SAMPLE_REJECTION_REASON	AN	2	216-217	OPTIONAL - If this field is valued (e.g. for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218-229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230-249	CONDITIONALLY MANDATORY - This field must be valued if field 16 (B_SAMPLE_TYPE) = ("CO" or "RP") and (field 30 (B_ANALYTE_CODE) = "1040" (Nitrate) or "1041" (Nitrite)).
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250-269	CONDITIONALLY MANDATORY - Must be valued if field 28 (B_COMPOSITE_INDICATOR) is valued. All samples that are part of the composite share the same B_LAB_COMPOSITE_NUMBER.
27.	B_COMPOSITE_DATE	DT	8	270-277	OPTIONAL
28. *	B_COMPOSITE_INDICATOR	AN	1	278	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LAB_COMPOSITE_NUMBER) is valued.
29. *	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280-283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284-293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294-301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302-309	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
34.	B_ANALYSIS_METHOD_CODE	AN	12	310-321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322-326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327-331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332-335	NOT USED (Blank Fill)
38. *	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343-347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348-355	NOT USED (Blank Fill)
	FILLER		20	356-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

**1.3 B\_Sample\_Sample\_Summary File Layout for Radionuclide**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
5.	B_STATE_SAMPLE_NUMBER	AN	20	35-54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55-65	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_STATE_LABORATORY_NUMBER	AN	10	67-76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77-86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87-98	MANDATORY - Must belong to the Water System supplied in <b>field 6 (B_WATER_SYSTEM_NUMBER).</b>

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
10.	B_SAMPLING_POINT	AN	11	99-109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
11.	B_SAMPLING_LOCATION	AN	20	110-129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
12. *	B_SAMPLE_CATEGORY	AN	2	130-131	MANDATORY - Must equal "RA"

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
13. *	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y". If set to N, sample only needs to have fields (4) B_LAB_SAMPLE_NUMBER, field (7) B_STATE_LABORATORY_NUMBER, field (12) B_SAMPLE_CATEGORY, field (14) B_COLLECTION_DATE, and field (16) B_SAMPLE_TYPE valued to create the sample.  If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample. MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y".
14.	B_COLLECTION_DATE	DT	8	133-140	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
15.	B_COLLECTION_TIME	TM	6	141-146	OPTIONAL
16. *	B_SAMPLE_TYPE	AN	2	147-148	MANDATORY - If this field is not valued, Migration to SDWIS/STATE will set to "RT" which is defined as "Routine".
17. *	B_REPEAT_LOCATION_CODE	AN	2	149-150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151-158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159-163	NOT USED (Blank Fill)

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
20.	B_COLLECTOR_NAME	AN	40	164-203	OPTIONAL -if supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21. *	B_SAMPLE_VOLUME	AN	9	204-212	NOT USED (Blank Fill)
22. *	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213-215	NOT USED (Blank Fill)
23. *	B_SAMPLE_REJECTION_REASON	AN	2	216-217	OPTIONAL - If this field is valued (e.g. for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result.
24.	B_COLLECTION_METHOD_CODE	AN	12	218-229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230-249	OPTIONAL
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250-269	<p>CONDITIONALLY MANDATORY - Must be valued if field 28 (B_COMPOSITE_INDICATOR) is valued. All samples that are part of the composite share the same B_LAB_COMPOSITE_NUMBER.</p> <p><b>Note: For RAD Composites, each of the (up to) four RAD composite samples needs to be in the structure set-formatted text file. Each sample that is part of the composite should have the composite result reported for/with it. The software does not currently support reporting first, second, and third “composited” samples as such, with no result. The expectation is that the lab will report the four composited samples - each with the composite result - together.</b></p>
27.	B_COMPOSITE_DATE	DT	8	270-277	OPTIONAL

\* Designates field with permitted values.

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
28. *	B_COMPOSITE_INDICATOR	AN	1	278	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LAB_COMPOSITE_NUMBER) is valued. <b>Note: For RAD Composites, each of the (up to) four RAD composite samples needs to be in the structure set-formatted text file. Each sample that is part of the composite should have the composite result reported for/with it. The software does not currently support reporting first, second, and third “composited” samples as such, with no result. The expectation is that the lab will report the four composited samples - each with the composite result - together.</b>
29. *	B_COMPOSITE_QUARTER	AN	1	279	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LAB_COMPOSITE_NUMBER) is valued. The software expects that when the four RAD quarterly composite samples are supplied, the one for the first quarter will always be first. Encountering a 1 in this field triggers the software to create the composite parent record to which all subsequent composite member samples (e.g. the samples for quarters 2, 3, and 4) will be linked. Since this action only occurs with a 1, the software will not be able to properly process the results if the composite samples for quarters 2, 3, or 4 are reported prior to that for quarter 1.
30.	B_ANALYTE_CODE	AN	4	280-283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284-293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294-301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302-309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310-321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322-326	NOT USED (Blank Fill)

\* Designates field with permitted values.



<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327-331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332-335	NOT USED (Blank Fill)
38. *	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343-347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348-355	NOT USED (Blank Fill)
	FILLER		20	356-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

**1.4 B\_Sample\_Sample\_Summary File Layout for Water Quality**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
5.	B_STATE_SAMPLE_NUMBER	AN	20	35-54	OPTIONAL
6.	B_WATER_SYSTEM_NUMBER	AN	11	55-65	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	OPTIONAL

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_STATE_LABORATORY_NUMBER	AN	10	67-76	CONDITIONALLY MANDATORY - Must be valued if field 8 (B_FEDERAL_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77-86	CONDITIONALLY MANDATORY - Must be valued if field 7 (B_STATE_LABORATORY_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87-98	MANDATORY - Must belong to the Water System supplied in <b>field 6 (B_WATER_SYSTEM_NUMBER).</b>

B_SAMPLE_SAMPLE_SUMMARY					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
10.	B_SAMPLING_POINT	AN	11	99-109	CONDITIONALLY MANDATORY - Must be valued if field 11 (B_SAMPLING_LOCATION) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
11.	B_SAMPLING_LOCATION	AN	20	110-129	CONDITIONALLY MANDATORY - Must be valued if field 10 (B_SAMPLING_POINT) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
12. *	B_SAMPLE_CATEGORY	AN	2	130-131	MANDATORY - Must equal "PP"

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
13. *	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y". If set to N, sample only needs to have fields (4) B_LAB_SAMPLE_NUMBER, field (7) B_STATE_LABORATORY_NUMBER, field (12) B_SAMPLE_CATEGORY, field (14) B_COLLECTION_DATE, and field (16) B_SAMPLE_TYPE valued to create the sample.  If other data are supplied with the sample, they should be accepted with the sample, but the above are all that is necessary to enter a "not for compliance" sample.
14.	B_COLLECTION_DATE	DT	8	133-140	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 6 (B_WATER_SYSTEM_NUMBER), and (field 7 (B_STATE_LABORATORY_NUMBER) or field 8 (B_FEDERAL_LABORATORY_NUMBER)), and (field 10 (B_SAMPLING_POINT) or field 11 (B_SAMPLING_LOCATION)), and field 14 (B_COLLECTION_DATE).</b>
15.	B_COLLECTION_TIME	TM	6	141-146	OPTIONAL
16. *	B_SAMPLE_TYPE	AN	2	147-148	MANDATORY - If this field is not valued, Migration to SDWIS/STATE will set to "RT" which is defined as "Routine".
17. *	B_REPEAT_LOCATION_CODE	AN	2	149-150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151-158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159-163	NOT USED (Blank Fill)

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
20.	B_COLLECTOR_NAME	AN	40	164-203	OPTIONAL - if supplied, format must be: LASTNAME, FIRSTNAME (There is a single space after the comma) if collector is an Individual (Legal Entity). Otherwise, value is stored with Sample as Informal Collector.
21. *	B_SAMPLE_VOLUME	AN	9	204-212	NOT USED (Blank Fill)
22. *	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213-215	NOT USED (Blank Fill)
23. *	B_SAMPLE_REJECTION_REASON	AN	2	216-217	OPTIONAL - If this field is valued (e.g. for a rejected sample), the sample may be inserted without the sample result. This is the only condition where a sample may be inserted without a result. OPTIONAL
24.	B_COLLECTION_METHOD_CODE	AN	12	218-229	OPTIONAL
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230-249	OPTIONAL
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250-269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE	DT	8	270-277	NOT USED (Blank Fill)
28. *	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29. *	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280-283	NOT USED (Blank Fill)
31.	B_CAS_NUMBER	AN	10	284-293	NOT USED (Blank Fill)
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294-301	NOT USED (Blank Fill)
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302-309	NOT USED (Blank Fill)
34.	B_ANALYSIS_METHOD_CODE	AN	12	310-321	NOT USED (Blank Fill)
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322-326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327-331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332-335	NOT USED (Blank Fill)
38. *	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
40.	B_PH_MEASURE	N	5 (4(1))	343-347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348-355	NOT USED (Blank Fill)
	FILLER		20	356-375	Blank fill to make fixed record length of 375.

**1.5 B\_Sample\_Sample\_Summary File Layout for Sample Summary**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = HDR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = S
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	NOT USED (Blank Fill)
5.	B_STATE_SAMPLE_NUMBER	AN	20	35-54	NOT USED (Blank Fill)
6.	B_WATER_SYSTEM_NUMBER	AN	11	55-65	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).</b>
6.A *	B_REPLACEMENT_INDICATOR	AN	1	66	NOT USED (Blank Fill)
7.	B_STATE_LABORATORY_NUMBER	AN	10	67-76	OPTIONAL
8.	B_FEDERAL_LABORATORY_NUMBER	AN	10	77-86	OPTIONAL
9.	B_WATER_FACILITY_STATE_CODE	AN	12	87-98	OPTIONAL - If supplied, must belong to the Water System supplied in <b>field 6 (B_WATER_SYSTEM_NUMBER)</b> .
10.	B_SAMPLING_POINT	AN	11	99-109	OPTIONAL
11.	B_SAMPLING_LOCATION	AN	20	110-129	OPTIONAL
12. *	B_SAMPLE_CATEGORY	AN	2	130-131	NOT USED (Blank Fill)
13. *	B_COMPLIANCE_INDICATOR	AN	1	132	MANDATORY - If not valued, Migration to SDWIS/STATE will set to "Y".
14.	B_COLLECTION_DATE (for Sample Summary (17.5) this field is used for the Summary Collection Start Date)	DT	8	133-140	OPTIONAL - If valued, must be less than or equal to the current date.
15.	B_COLLECTION_TIME	TM	6	141-146	NOT USED (Blank Fill)

\* Designates field with permitted values.



<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
16. *	B_SAMPLE_TYPE	AN	2	147-148	NOT USED (Blank Fill)
17. *	B_REPEAT_LOCATION_CODE	AN	2	149-150	NOT USED (Blank Fill)
18.	B_LAB_RECEIPT_DATE_SAMPLE	DT	8	151-158	OPTIONAL
19.	B_COLLECTOR_IDENTIFICATION_NUMB	AN	5	159-163	NOT USED (Blank Fill)
20.	B_COLLECTOR_NAME	AN	40	164-203	NOT USED (Blank Fill)
21. *	B_SAMPLE_VOLUME	AN	9	204-212	NOT USED (Blank Fill)
22. *	B_LEAD_COPPER_SAMPLE_TYPE	AN	3	213-215	NOT USED (Blank Fill)
23. *	B_SAMPLE_REJECTION_REASON	AN	2	216-217	NOT USED (Blank Fill)
24.	B_COLLECTION_METHOD_CODE	AN	12	218-229	NOT USED (Blank Fill)
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	AN	20	230-249	NOT USED (Blank Fill)
26.	B_LAB_COMPOSITE_NUMBER	AN	20	250-269	NOT USED (Blank Fill)
27.	B_COMPOSITE_DATE (for Sample Summary (17.5) this field is used for the Summary Collection End Date)	DT	8	270-277	OPTIONAL - If valued, must be after the Collection Start Date in field 14 (B_COLLECTION_DATE).
28. *	B_COMPOSITE_INDICATOR	AN	1	278	NOT USED (Blank Fill)
29. *	B_COMPOSITE_QUARTER	AN	1	279	NOT USED (Blank Fill)
30.	B_ANALYTE_CODE	AN	4	280-283	MANDATORY -Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).
31.	B_CAS_NUMBER	AN	10	284-293	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
32.	B_MONITORING_PERIOD_START_DATE	DT	8	294-301	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).</b> Value supplied must be the first day of the first month of the monitoring period.
33.	B_MONITORING_PERIOD_END_DATE	DT	8	302-309	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 6 (B_WATER_SYSTEM_NUMBER), and field 30 (B_ANALYTE_CODE), and field 32 (B_MONITORING_PERIOD_START_DATE), and field 33 (B_MONITORING_PERIOD_END_DATE).</b> Value supplied must be the last day of the last month of the monitoring period.
34.	B_ANALYSIS_METHOD_CODE	AN	12	310-321	OPTIONAL - may be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
35.	B_FREE_CHLORINE_RESIDUAL	N	5 (4(2))	322-326	NOT USED (Blank Fill)
36.	B_TOTL_CHLORINE_RESIDUAL	N	5 (4(2))	327-331	NOT USED (Blank Fill)
37.	B_SAMPLE_WATER_TEMPERATURE	N	4 (3(1))	332-335	NOT USED (Blank Fill)
38. *	B_TEMPERATURE_UNIT_MEASURE	AN	1	336	NOT USED (Blank Fill)
39.	B_TURBIDITY_MEASURE	N	6 (5(2))	337-342	NOT USED (Blank Fill)
40.	B_PH_MEASURE	N	5 (4(1))	343-347	NOT USED (Blank Fill)
41.	B_FLOW_RATE	N	8 (7(4))	348-355	NOT USED (Blank Fill)
	FILLER		20	356-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

**1.6 B\_Sample\_Sample\_Summary Permitted Value List**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
6.A *	B_REPLACEMENT_INDICATOR	<b>Y</b> Yes <b>N</b> No
12.	B_SAMPLE_CATEGORY	<b>CH</b> Chemicals <b>GE</b> General Samples <b>MB</b> Microbiological <b>PB</b> Lead and Copper <b>PP</b> Water Quality (Physical Parameters) <b>RA</b> Radionuclides <b>TC</b> Total Coliform
13.	B_COMPLIANCE_INDICATOR	<b>Y</b> Yes <b>N</b> No
16.	B_SAMPLE_TYPE for Total Coliform or Microbiological Samples (B_SAMPLE_CATEGORY = TC or MB)	<p>If field 13 (B_COMPLIANCE_INDICATOR) = "Y"</p> <p><b>RT</b> Routine <b>RP</b> Repeat</p> <p>If field 13 (B_COMPLIANCE_INDICATOR) = "N"</p> <p><b>RT</b> Routine <b>RP</b> Repeat <b>SP</b> Special <b>SL</b> Split <b>SB</b> Shipping Blank <b>FB</b> Field Blank <b>BB</b> Batch Blank <b>ST</b> Split Blank <b>PE</b> Performance Evaluation <b>MR</b> Max Residence Time</p>

\* Designates field with permitted values.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
16.	B_SAMPLE_TYPE for Chemical and Lead & Copper Samples (B_SAMPLE_CATEGORY = CH or PB)	<p>If field 13 (B_COMPLIANCE_INDICATOR) = "Y"</p> <p><b>RT</b> Routine  <b>RP</b> Repeat  <b>CO</b> Confirmation  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split  <b>MR</b> Max Residence Time</p> <p>If field 13 (B_COMPLIANCE_INDICATOR) = "N"</p> <p><b>RT</b> Routine  <b>CO</b> Confirmation  <b>RP</b> Repeat  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split  <b>SB</b> Shipping Blank  <b>FB</b> Field Blank  <b>BB</b> Batch Blank  <b>ST</b> Split Blank  <b>PE</b> Performance Evaluation  <b>MR</b> Max Residence Time</p>

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
16.	B_SAMPLE_TYPE for Radionuclide Samples (B_SAMPLE_CATEGORY = RA)	<p>If field 13 (B_COMPLIANCE_INDICATOR) = "Y"</p> <p><b>RT</b> Routine  <b>RP</b> Repeat  <b>CO</b> Confirmation  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split</p> <p>If field 13 (B_COMPLIANCE_INDICATOR) = "N"</p> <p><b>RT</b> Routine  <b>RP</b> Repeat  <b>CO</b> Confirmation  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split  <b>SB</b> Shipping Blank  <b>FB</b> Field Blank  <b>BB</b> Batch Blank  <b>ST</b> Split Blank  <b>PE</b> Performance Evaluation  <b>MR</b> Max Residence Time</p>

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
16.	B_SAMPLE_TYPE for Water Quality Samples (B_SAMPLE_CATEGORY = PP)	<p>If field 13 (B_COMPLIANCE_INDICATOR) = "Y"</p> <p><b>RT</b> Routine  <b>CO</b> Confirmation  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split</p> <p>If field 13 (B_COMPLIANCE_INDICATOR) = "N"</p> <p><b>RT</b> Routine  <b>CO</b> Confirmation  <b>SP</b> Special  <b>DU</b> Duplicate  <b>SL</b> Split  <b>SB</b> Shipping Blank  <b>FB</b> Field Blank  <b>BB</b> Batch Blank  <b>ST</b> Split Blank  <b>PE</b> Performance Evaluation  <b>MR</b> Max Residence Time</p>
17.	B_REPEAT_LOCATION_CODE	<p><b>DN</b> Downstream within 5 connections of original sample location  <b>NF</b> Near First Service Connection  <b>OR</b> Original Site  <b>OT</b> Other  <b>UP</b> Upstream within 5 connections of original sample location</p>
21.	B_SAMPLE_VOLUME	<p><b>100</b>  <b>300</b>  <b>400</b></p>
22.	B_LEAD_COPPER_SAMPLE_TYPE	<p><b>ATS</b> At Source  <b>FLS</b> Flushed  <b>FSD</b> First Draw  <b>LSL</b> Lead Service Line</p>

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
23.	B_SAMPLE_REJECTION_REASON	<b>BP</b> Invalid Sampling Point <b>BR</b> Broken <b>CL</b> Chlorine Present <b>EH</b> Exceeds Holding Time <b>FZ</b> Frozen Sample <b>HS</b> Excessive Headspace <b>IN</b> Insufficient Sample Information <b>IP</b> Invalid Sampling Protocol <b>LA</b> Lab Accident <b>LT</b> Leaked in Transit <b>VO</b> Insufficient Volume
28.	B_COMPOSITE_INDICATOR	<b>Y</b> Yes <b>N</b> No
29.	B_COMPOSITE_QUARTER	<b>1</b> First Quarter RAD Composite <b>2</b> Second Quarter RAD Composite <b>3</b> Third Quarter RAD Composite <b>4</b> Fourth Quarter RAD Composite
38.	B_TEMPERATURE_UNIT_MEASURE	<b>C</b> Celsius (Centigrade) <b>F</b> Fahrenheit

**1.7 B\_Sample\_Sample\_Summary Mapping to SDWIS/STATE Entities**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
1.	B_SAMPLE	B_RECORD_NAME			
2.	B_SAMPLE	B_REPORT_TYPE			
3.	B_SAMPLE	B_TRANSACTION_NUMBER			
4.	B_SAMPLE	B_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER
5.	B_SAMPLE	B_STATE_SAMPLE_NUMBER	TSASAMPL	SBS Sample	STATE_ASGN_IDENTIFICATION_NUMBER
6.	B_SAMPLE	B_WATER_SYSTEM_NUMBER	TINWSYS	Water System	NUMBER ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
6.A	B_SAMPLE	B_REPLACEMENT_INDICATOR	TSASAMPL	SBS Sample	REPLACEMENT_INDICATOR_CODE
7.	B_SAMPLE	B_STATE_LABORATORY_NUMBER	TSALAB	Laboratory	STATE_ASSIGNED_ID_NUMBER ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
8.	B_SAMPLE	B_FEDERAL_LABORATORY_NUMBER	TSALAB	Laboratory	FEDERAL_IDENTIFICATION_NUMBER ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
9.	B_SAMPLE	B_WATER_FACILITY_STATE_CODE	TINWSF	Water System Facility	STATE_ASGN_IDENTIFICATION_CODE ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
10.	B_SAMPLE	B_SAMPLING_POINT	TSASMPPT	Sampling Point	IDENTIFICATION_CODE ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
11.	B_SAMPLE	B_SAMPLING_LOCATION	TSASMPPT	Sampling Point	DESCRIPTION_TEXT ( <i>Foreign Key to either SBS Sample or Sample Summary</i> )
12.	B_SAMPLE	B_SAMPLE_CATEGORY	TSASAMPL	SBS Sample	D_CATEGORY_FLOW_CODE
13.	B_SAMPLE	B_COMPLIANCE_INDICATOR	TSASAMPL	SBS Sample	COMPLIANCE_PURPOSE_INDICATOR_CODE
14.	B_SAMPLE	B_COLLECTION_DATE	TSASAMPL	SBS Sample	COLLECTION_END_DATE
15.	B_SAMPLE	B_COLLECTION_TIME	TSASAMPL	SBS Sample	COLLECTION_END_TIME



<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
16.	B_SAMPLE	B_SAMPLE_TYPE	TSASAMPL	SBS Sample	TYPE_CODE
17.	B_SAMPLE	B_REPEAT_LOCATION_CODE	TSASAMPL	SBS Sample	REPEAT_LOCATION_TYPE_CODE
18.	B_SAMPLE	B_LAB_RECEIPT_DATE_SAMPLE	TSASAMPL	SBS Sample	LABORATORY_RECEIVED_DATE
19.	B_SAMPLE	B_COLLECTOR_IDENTIFICATION_NUM B			
20.	B_SAMPLE	B_COLLECTOR_NAME	TININDIV TINLGENT or TSASAMPL	Individual Legal Entity or SBS Sample	NAME ( <i>Foreign Key to SBS Sample</i> ) (Where INDIVIDUAL_Collector_Indicator_Code = 'Y') or INFORMAL_COLLECTOR
21.	B_SAMPLE	B_SAMPLE_VOLUME	TSASAMPL	SBS Sample	MICROBE_UOM_CODE
22.	B_SAMPLE	B_LEAD_COPPER_SAMPLE_TYPE	TSASAMPL	SBS Sample	LEAD_AND_COPPER_SAMPLE_TYPE_CODE
23.	B_SAMPLE	B_SAMPLE_REJECTION_REASON	TSASAMPL	SBS Sample	REJECTION_REASON_CODE
24.	B_SAMPLE	B_COLLECTION_METHOD_CODE	TSASMN	Standard Method Number	CODE ( <i>Foreign Key to SBS Sample</i> )
25.	B_SAMPLE	B_ORIGINAL_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER ( <i>Foreign Key to SBS Sample</i> )
26.	B_SAMPLE	B_LAB_COMPOSITE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER ( <i>Foreign Key to SBS Sample</i> )
27.	B_SAMPLE	B_COMPOSITE_DATE	TSASAMPL	SBS Sample	COMPOSITE_DATE
28.	B_SAMPLE	B_COMPOSITE_INDICATOR	TSASAMPL	SBS Sample	COMPOSITE_INDICATOR_CODE
29.	B_SAMPLE	B_COMPOSITE_QUARTER	TSASAMPL	SBS Sample	RAD_QUARTER_CODE
30.	B_SAMPLE	B_ANALYTE_CODE	TSAANLYT	Analyte	CODE ( <i>Foreign Key to Sample Summary</i> )
31.	B_SAMPLE	B_CAS_NUMBER	TSAANLYT	Analyte	CAS_REGISTRY_NUMBER ( <i>Foreign Key to Sample Summary</i> )
32.	B_SAMPLE	B_MONITORING_PERIOD_START_DATE	TMNMPRD	Monitoring Period	BEGIN_DATE ( <i>Foreign Key to Sample Summary</i> )

<b>B_SAMPLE_SAMPLE_SUMMARY</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
33.	B_SAMPLE	B_MONITORING_PERIOD_END_DATE	TMNMPRD	Monitoring Period	END_DATE ( <i>Foreign Key to Sample Summary</i> )
34.	B_SAMPLE	B_ANALYSIS_METHOD_CODE	TSASMN	Standard Method Number	CODE ( <i>Foreign Key to Sample Summary</i> )
35.	B_SAMPLE	B_FREE_CHLORINE_RESIDUAL	TSAMCSMP	Microbiological Sample	FIELD_FREE_CHLORINE_RESIDUAL_MSR
36.	B_SAMPLE	B_TOTL_CHLORINE_RESIDUAL	TSAMCSMP	Microbiological Sample	FIELD_TOTAL_CHLORINE_RESIDUAL_MSR
37.	B_SAMPLE	B_SAMPLE_WATER_TEMPERATURE	TSAMCSMP	Microbiological Sample	FIELD_TEMPERATURE_MEASURE
38.	B_SAMPLE	B_TEMPERATURE_UNIT_MEASURE	TSAMCSMP	Microbiological Sample	TEMP_MEASUREMENT_TYPE_CODE
39.	B_SAMPLE	B_TURBIDITY_MEASURE	TSAMCSMP	Microbiological Sample	FIELD_TURBIDITY_MEASURE
40.	B_SAMPLE	B_PH_MEASURE	TSAMCSMP	Microbiological Sample	FIELD_PH_MEASURE
41.	B_SAMPLE	B_FLOW_RATE	TSAMCSMP	Microbiological Sample	FIELD_FLOW_RATE

**1.8 B\_Sample\_Sample\_Summary Definitions**

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)</b>
1.	B_RECORD_NAME	'HDR' - Indicates that the input string represents a Sample. Each sample record must contain HDR in the first field.
2.	B_REPORT_TYPE	T - indicates the input string is an individual Sample/Sample Result; S indicates the input string is a Summary/Summary Result. This field is mandatory.
3.	B_TRANSACTION_NUMBER	NOT USED.
4.	B_LAB_SAMPLE_NUMBER	Number/alphanumeric that identifies each sample. The LAB_SAMPLE_NUMBER and the WATER_SYSTEM_NUMBER together uniquely identifies each sample and its results. This field is mandatory.
5.	B_STATE_SAMPLE_NUMBER	Additional number/alphanumeric to identify the sample. Both LAB_SAMPLE_NUMBER and STATE_SAMPLE_NUMBER may be used.
6.	B_WATER_SYSTEM_NUMBER	The Public Water System (PWS) Identification number. This field is mandatory.
6.A	B_REPLACEMENT_INDICATOR	Indicates whether or not the routine, repeat, confirmation, etc. type of sample is a replacement.
7.	B_STATE_LABORATORY_NUMBER	Laboratory Number normally assigned to a laboratory by the State.
8.	B_FEDERAL_LABORATORY_NUMBER	Laboratory Number normally assigned to a laboratory by the EPA or used to designate a laboratory as a federal entity.
9.	B_WATER_FACILITY_STATE_CODE	Number/alphanumeric that uniquely identifies a Water System Facility (e.g. Treatment Plant/Distribution System/Well) within a Water System.
10.	B_SAMPLING_POINT	Number/alphanumeric that uniquely identifies a point within a Water System Facility from which the sample is drawn. (Associated with SAMPLING LOCATION.)
11.	B_SAMPLING_LOCATION	Alphanumeric that typically identifies a Sampling Point as an address or equivalent text description. (Associated with SAMPLING POINT).
12.	B_SAMPLE_CATEGORY	Identifies the sample category as either Total Coliform/Lead & Copper/Chemical/General/ General Microbiological/Radionuclide/Water Quality Parameter.
13.	B_COMPLIANCE_INDICATOR	When set to "Y", indicates that the sample has been taken for compliance.
14.	B_COLLECTION_DATE	The date in which the sample was collected.
15.	B_COLLECTION_TIME	The time at which the sample was collected.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)</b>
16.	B_SAMPLE_TYPE	Indicates whether the sample is taken for "Routine" purposes or is a "Repeat," "Confirmation", etc.. Several types are available although not all may be used with samples taken for compliance.
17.	B_REPEAT_LOCATION_CODE	Indicates the location <u>relative to the original Sampling Point</u> at which the repeat/invalid replacement/confirmation sample was taken (upstream/downstream/original location/etc.).
18.	B_LAB_RECEIPT_DATE_SAMPLE	Date at which the Laboratory received the sample; cannot be prior to Collection Date.
19.	B_COLLECTOR_IDENTIFICATION_NUMBER	No longer used.
20.	B_COLLECTOR_NAME	Name of the Individual who is the collector of the sample.
21.	B_SAMPLE_VOLUME	Value to indicate the size of the volume of water collected for the sample.
22.	B_LEAD_COPPER_SAMPLE_TYPE	Type of Lead & Copper sample (for purposes of Lead & Copper rule compliance).
23.	B_SAMPLE_REJECTION_REASON	Set of possible reasons to reject a sample prior to its analysis at the lab.
24.	B_COLLECTION_METHOD_CODE	Code that indicates the Method used to collect the sample.
25.	B_ORIGINAL_LAB_SAMPLE_NUMBER	LAB_SAMPLE_NUMBER of the sample that was originally taken and whose result required the current Repeat/Invalid Replacement/Confirmation sample to be taken.
26.	B_LAB_COMPOSITE_NUMBER	Number/alphanumeric that ties a composite sample to one or more other composite samples. Each sample that is part of the Composite must carry the same LAB_COMPOSITE_NUMBER.
27.	B_COMPOSITE_DATE	Date in which the Lab composited one or more individual samples.
28.	B_COMPOSITE_INDICATOR	When set to 'Y', indicates that the sample is a composite and that the LAB_COMPOSITE_NUMBER will be valued.
29.	B_COMPOSITE_QUARTER	Used only for Radionuclide composites. The quarter (1/2/3/4) to which the individual sample (collected during that quarter but that will be composited at the end of the fourth quarter) should be attributed for purposes of monitoring compliance.
30.	B_ANALYTE_CODE	Standard code used to represent a given analyte. Only valued here for Sample Summary.
31.	B_CAS_NUMBER	NOT USED.
32.	B_MONITORING_PERIOD_START_DATE	Start date of the Monitoring Period. Only valued here for Sample Summary.
33.	B_MONITORING_PERIOD_END_DATE	End date of the Monitoring Period. Only valued here for Sample Summary.
34.	B_ANALYSIS_METHOD_CODE	Standard Analysis Method Code for a specific analyte. Only valued here for Sample Summary.

<b>B_SAMPLE_SAMPLE_SUMMARY</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL SAMPLE (T)/ SAMPLE SUMMARY (S)</b>
35.	B_FREE_CHLORINE_RESIDUAL	"Field Result" value measured at the time/location of sample collection. Reported in mg/l.
36.	B_TOTL_CHLORINE_RESIDUAL	"Field Result" value measured at the time/location of sample collection. Reported in mg/l.
37.	B_SAMPLE_WATER_TEMPERATURE	"Field Result" value measured at the time/location of sample collection.
38.	B_TEMPERATURE_UNIT_MEASURE	Temperature Unit of Measure - either C (Celsius) or F (Fahrenheit).
39.	B_TURBIDITY_MEASURE	"Field Result" value measured at the time/location of sample collection. Reported in NTU.
40.	B_PH_MEASURE	"Field Result" value measured at the time/location of sample collection. Reported in pH Units.
41.	B_FLOW_RATE	"Field Result" value measured at the time/location of sample collection. Reported in gal/min.
	FILLER	

**2.0 STRUCTURE SET B\_Result\_Summary\_Result****2.1 B\_Result\_Summary\_Result File Layout for Total Coliform Results**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER) and field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35-46	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER) and field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
6.	B_ANALYTE_CODE	AN	4	47-50	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER) and field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>
7.	B_CAS_NUMBER	AN	10	51-60	NOT USED (Blank Fill)
8.	B_ANALYSIS_START_DATE	DT	8	61-68	OPTIONAL - Sample will be rejected if Analysis Start Date is supplied but is prior to Sample Collection Date.
9.	B_ANALYSIS_START_TIME	TM	6	69-74	OPTIONAL

B_RESULT_SUMMARY_RESULT					
FIELD NO	FIELD NAME	DOMAIN	SIZE	POSITION	OPTIONALITY
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75-82	OPTIONAL - Sample will be rejected if Analysis Completion Date is supplied but is prior to Sample Collection Date. Sample will also be rejected if both Analysis Start and Completion Dates are supplied, but Completion Date is prior to Start Date.
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83-88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89-96	OPTIONAL
13. *	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, Migration to SDWIS/STATE will set it to "A" which is defined as "Accepted." If valued with "R", this is considered a rejected result, and a result record will be created.
14. *	B_DATA_QUALITY_REASON	AN	2	98-99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R".
15. *	B_ANALYSIS_METHOD_CODE	AN	12	100-111	OPTIONAL - may be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112-119	OPTIONAL - <b>If sample is for compliance (see Sample structure set):</b> If valid current TCR monitoring periods do not exist in your database, recommend that date be supplied to preclude sample rejection. See detailed edit check information at the end of this structure set.  <b>If sample is not for compliance (see Sample structure set):</b> see detailed edit check information at the end of this structure set. No monitoring period need be in the database or supplied with the input file for the sample to be accepted.

\* Designates field with permitted values.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120-127	OPTIONAL - <b>If sample is for compliance (see Sample structure set):</b> If valid current TCR monitoring periods do not exist in your database, recommend that date be supplied to preclude sample rejection. See detailed edit check information at the end of this structure set.  <b>If sample is not for compliance (see Sample structure set):</b> see detailed edit check information at the end of this structure set. No monitoring period need be in the database or supplied with the input file for the sample to be accepted.
18.	B_VOLUME_ASSAYED	AN	9	128-136	OPTIONAL
19. *	B_LAB_REJECTION_REASON	AN	4	137-140	CONDITIONALLY MANDATORY - see discussion in field 20.
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	CONDITIONALLY MANDATORY - •If not valued, field 19 (B_LAB_REJECTION_REASON) must be valued and field 22 (B_COUNT) must not be valued. •If valued with P, field 22 (B_COUNT) must be either not valued, or if valued, be greater than 0. •If valued with A, field 19 (B_LAB_REJECTION_REASON) should not be valued and field 22 (B_COUNT) should not be valued with 0 or any other integer.
21. *	B_TEST_TYPE	AN	1	142	OPTIONAL
22.	B_COUNT	N	10	143-152	CONDITIONALLY MANDATORY - see discussion in field 20.
23. *	B_COUNT_TYPE	AN	10	153-162	CONDITIONALLY MANDATORY - Field must be valued if field 22 (B_COUNT) > 0.
24. *	B_COUNT_UNITS	AN	9	163-171	CONDITIONALLY MANDATORY - Field must be valued if field 23 (B_COUNT_TYPE) is valued.

\* Designates field with permitted values.

+ Shaded gray blocks designate changes to previously published Structure Sets.



<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
25. *	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26. *	B_LESS_THAN_CODE	AN	3	173-175	NOT USED (Blank Fill)
27.	B_DETECTION_LEVEL	N	16 (15(8))	176-191	NOT USED (Blank Fill)
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192-200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14 (13(9))	201-214	NOT USED (Blank Fill)
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215-223	NOT USED (Blank Fill)
31.	B_REPORTED_MEASURE	AN	10	224-233	NOT USED (Blank Fill)
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9	234-242	NOT USED (Blank Fill)
33. *	B_RESULTS_TYPE	AN	2	243-244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245-254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255-268	NOT USED (Blank Fill)
36. *	B_MEASURE_UNIT_CODE	AN	9	269-277	NOT USED (Blank Fill)
	FILLER		98	278-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

Detailed edit check information for Field 16 B\_MONITORING\_PERIOD\_START\_DATE:

**If sample is for compliance (see Sample structure set):**

If supplied, *MTS: Sampling/Sampling via EDI* checks for a monitoring period in the database that matches dates in field 16 and 17 for supplied Water System (field 5) and TC Rule. If not found, software will attempt to create monitoring period based on the dates supplied in fields 16 and 17 and link it with TCR result.

- C If date supplied, value must be the first day of the first month of the monitoring period. If it is:
  - C Software calculates Monitoring Period Type. If the number of days difference between fields 17 and 16 is consistent with either “MN” or “QT”,
  - C The software checks the periodicity specified by the water system’s TCR schedule that was active on the Sample Collection Date for a match with the calculated monitoring period type. If there is a match, software creates the monitoring period and links it to the result.

If not found, software considers the monitoring periods supplied to be invalid and treats them as if they were absent.

- C If invalid (based on above edit checks) or no monitoring period dates are supplied (fields 16 and 17 are blank), software attempts to calculate the correct monitoring period based on supplied Water System (field 5), TC Rule, and sampling periodicity specified by the water system’s TCR monitoring schedule that was active on the Sample Collection Date. If there is a match, software links the retrieved monitoring period to the result.
- C If no monitoring period meets this criteria, the sample and result will be rejected.
- C **If sample is not for compliance (see Sample structure set):** No monitoring period needs to be supplied for the sample and result to be accepted into the database. The absence of a monitoring period in the database that matches dates in field 16 and 17 for supplied Water System (field 5) and TC Rule and of the periodicity specified by the water system’s TCR schedule that was active on the Sample Collection Date *will not* preclude the result from being entered into the database. Since monitoring periods are associated with compliance, they are not linked to “not for compliance” sample results.

Detailed edit check information for Field 17 B\_MONITORING\_PERIOD\_END \_DATE:

The same information applies except If date supplied, value must be the last day of the last month of the monitoring period.

**2.2 B\_Result\_Summary\_Result File Layout for Chemical and Lead & Copper Results**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35-46	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
6.	B_ANALYTE_CODE	AN	4	47-50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_CAS_NUMBER	AN	10	51-60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>
8.	B_ANALYSIS_START_DATE	DT	8	61-68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69-74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75-82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83-88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89-96	OPTIONAL
13. *	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, Migration to SDWIS/STATE will set it to "A" which is defined as "Accepted."
14. *	B_DATA_QUALITY_REASON	AN	2	98-99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R".
15. *	B_ANALYSIS_METHOD_CODE	AN	12	100-111	OPTIONAL - may be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112-119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120-127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18. *	B_VOLUME_ASSAYED	AN	9	128-136	NOT USED (Blank Fill)
19. *	B_LAB_REJECTION_REASON	AN	4	137-140	NOT USED (Blank Fill)
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
21. *	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143-152	NOT USED (Blank Fill)
23. *	B_COUNT_TYPE	AN	10	153-162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163-171	NOT USED (Blank Fill)
25. *	B_LESS_THAN_INDICATOR	AN	1	172	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and (field 29 (B_CONCENTRATION) is not valued and field 31 (B_REPORTED_MEASURE)) is not valued.
26. *	B_LESS_THAN_CODE	AN	3	173-175	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y".
27.	B_DETECTION_LEVEL	N	16 (15(8))	176-191	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL".
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192-200	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued. If sample result is federally reportable (see Appendix F for list of reportable analytes), value must be either MG/L or UG/L.
29.	B_CONCENTRATION	N	14 (13(9))	201-214	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 29 (B_REPORTED_MEASURE) is not valued.
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215-223	CONDITIONALLY MANDATORY - Must be valued if either field 29 (B_CONCENTRATION) or field 31 (B_REPORTED_MEASURE) are valued. If sample result is federally reportable (see Appendix F for list of reportable analytes), value must be either MG/L or UG/L.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
31.	B_REPORTED_MEASURE	AN	10	224-233	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 29 (B_CONCENTRATION) is not valued. Recommend reporting the concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9	234-242	NOT USED (Blank Fill)
33. *	B_RESULTS_TYPE	AN	2	243-244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245-254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255-268	NOT USED (Blank Fill)
36. *	B_MEASURE_UNIT_CODE	AN	9	269-277	NOT USED (Blank Fill)
	FILLER		98	278-375	Blank fill to make fixed record length of 375.

\* Designates field with permitted values.

**2.3 B\_Result\_Summary\_Result File Layout for Radionuclide Results**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35-46	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
6.	B_ANALYTE_CODE	AN	4	47-50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_CAS_NUMBER	AN	10	51-60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>
8.	B_ANALYSIS_START_DATE	DT	8	61-68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69-74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75-82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83-88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89-96	OPTIONAL
13. *	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, Migration to SDWIS/STATE will set it to "A" which is defined as "Accepted."
14. *	B_DATA_QUALITY_REASON	AN	2	98-99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R".
15. *	B_ANALYSIS_METHOD_CODE	AN	12	100-111	OPTIONAL - may be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112-119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120-127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18. *	B_VOLUME_ASSAYED	AN	9	128-136	NOT USED (Blank Fill)
19. *	B_LAB_REJECTION_REASON	AN	4	137-140	NOT USED (Blank Fill)
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)

\* Designates field with permitted values.



<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
21. *	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143-152	NOT USED (Blank Fill)
23. *	B_COUNT_TYPE	AN	10	153-162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163-171	NOT USED (Blank Fill)
25. *	B_LESS_THAN_INDICATOR	AN	1	172	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and (field 29 (B_CONCENTRATION) is not valued and field 31 (B_REPORTED_MEASURE)) is not valued.
26. *	B_LESS_THAN_CODE	AN	3	173-175	CONDITIONALLY MANDATORY - Must be valued if field 25 (B_LESS_THAN_INDICATOR) = "Y".
27.	B_DETECTION_LEVEL	N	16 (15(8))	176-191	CONDITIONALLY MANDATORY - Must be valued if field 26 (B_LESS_THAN_CODE) = "MRL".
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192-200	CONDITIONALLY MANDATORY - Must be valued if field 27 (B_DETECTION_LEVEL) is valued.
29.	B_CONCENTRATION	N	14 (13(9))	201-214	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 31 (B_REPORTED_MEASURE) is not valued.
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215-223	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION) or field 31 (B_REPORTED_MEASURE) is valued.
31.	B_REPORTED_MEASURE	AN	10	224-233	CONDITIONALLY MANDATORY - Must be valued if field 13 (B_DATA_QUALITY) = ("A" or "P") and field 25 (B_LESS_THAN_INDICATOR) is not valued and field 29 (B_CONCENTRATION) is not valued. Recommend reporting the concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) in order to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9	234-242	OPTIONAL

\* Designates field with permitted values.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
33. *	B_RESULTS_TYPE	AN	2	243-244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245-254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255-268	NOT USED (Blank Fill)
36. *	B_MEASURE_UNIT_CODE	AN	9	269-277	NOT USED (Blank Fill)
	FILLER		98	278-375	Blank fill to make fixed record length of 375.

**2.4 B\_Result\_Summary\_Result File Layout for Water Quality Results**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = T
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
5.	B_WATER_SYSTEM_NUMBER	AN	12	35-46	MANDATORY - <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b> Required to associate the result to the parent sample.
6.	B_ANALYTE_CODE	AN	4	47-50	CONDITIONALLY MANDATORY - Field must be valued if field 7 (B_CAS_NUMBER) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
7.	B_CAS_NUMBER	AN	10	51-60	CONDITIONALLY MANDATORY - Field must be valued if field 6 (B_ANALYTE_CODE) is not valued. <b>Uniqueness/Duplicate check is on the combination of field 4 (B_LAB_SAMPLE_NUMBER), and field 5 (B_WATER_SYSTEM_NUMBER), and (field 6 (B_ANALYTE_CODE) or field 7 (B_CAS_NUMBER)) (and field 10 (B_ANALYSIS_COMPLETION_DATE) if supplied).</b>
8.	B_ANALYSIS_START_DATE	DT	8	61-68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69-74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75-82	OPTIONAL
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83-88	OPTIONAL
12.	B_STATE_NOTIFY_DATE	DT	8	89-96	OPTIONAL
13. *	B_DATA_QUALITY	AN	1	97	OPTIONAL - If this field is not valued, Migration to SDWIS/STATE will set it to "A" which is defined as "Accepted."
14. *	B_DATA_QUALITY_REASON	AN	2	98-99	CONDITIONALLY MANDATORY - Field must be valued if field 13 (B_DATA_QUALITY) = "R".
15. *	B_ANALYSIS_METHOD_CODE	AN	12	100-111	OPTIONAL - may be either a federally owned or state-owned analyte method pairing that exists in state/region's SDWIS/STATE database.
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112-119	OPTIONAL - If supplied, value must be the first day of the first month of the monitoring period.
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120-127	OPTIONAL - If supplied, value must be the last day of the last month of the monitoring period.
18. *	B_VOLUME_ASSAYED	AN	9	128-136	NOT USED (Blank Fill)
19. *	B_LAB_REJECTION_REASON	AN	4	137-140	NOT USED (Blank Fill)
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
21. *	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143-152	NOT USED (Blank Fill)
23. *	B_COUNT_TYPE	AN	10	153-162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163-171	NOT USED (Blank Fill)
25. *	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26. *	B_LESS_THAN_CODE	AN	3	173-175	NOT USED (Blank Fill)
27.	B_DETECTION_LEVEL	N	16 (15(8))	176-191	NOT USED (Blank Fill)
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192-200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14 (13(9))	201-214	CONDITIONALLY MANDATORY - Must be valued if field 31 (B_REPORTED_MEASURE) is not valued.
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215-223	MANDATORY
31.	B_REPORTED_MEASURE	AN	10	224-233	CONDITIONALLY MANDATORY - Must be valued if field 29 (B_CONCENTRATION) is not valued. Recommend reporting the concentration in both field 29 (B_CONCENTRATION) and field 31 (B_REPORTED_MEASURE) to preserve precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9	234-242	NOT USED (Blank Fill)
33. *	B_RESULTS_TYPE	AN	2	243-244	NOT USED (Blank Fill)
34.	B_COUNT_QUANTITY	N	10	245-254	NOT USED (Blank Fill)
35.	B_MEASURE	N	14(13(9))	255-268	NOT USED (Blank Fill)
36. *	B_MEASURE_UNIT_CODE	AN	9	269-277	NOT USED (Blank Fill)
	FILLER		98	278-375	Blank fill to make fixed record length of 375.

**2.5 B\_Result\_Summary\_Result File Layout for Summary Results**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
1.	B_RECORD_NAME	AN	3	1-3	MANDATORY - Field must = DTR
2.	B_REPORT_TYPE	AN	1	4	MANDATORY - Field must = S
3.	B_TRANSACTION_NUMBER	AN	10	5-14	NOT USED (Blank Fill)
4.	B_LAB_SAMPLE_NUMBER	AN	20	15-34	NOT USED (Blank Fill)
5.	B_WATER_SYSTEM_NUMBER	AN	12	35-46	MANDATORY - <b>Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.</b>
6.	B_ANALYTE_CODE	AN	4	47-50	MANDATORY - <b>Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.</b>
7.	B_CAS_NUMBER	AN	10	51-60	NOT USED (Blank Fill)
8.	B_ANALYSIS_START_DATE	DT	8	61-68	NOT USED (Blank Fill)
9.	B_ANALYSIS_START_TIME	TM	6	69-74	NOT USED (Blank Fill)
10.	B_ANALYSIS_COMPLETION_DATE	DT	8	75-82	NOT USED (Blank Fill)
11.	B_ANALYSIS_COMPLETION_TIME	TM	6	83-88	NOT USED (Blank Fill)
12.	B_STATE_NOTIFY_DATE	DT	8	89-96	NOT USED (Blank Fill)

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
13. *	B_DATA_QUALITY	AN	1	97	NOT USED (Blank Fill)
14. *	B_DATA_QUALITY_REASON	AN	2	98-99	NOT USED (Blank Fill)
15.	B_ANALYSIS_METHOD_CODE	AN	12	100-111	NOT USED (Blank Fill)
16.	B_MONITORING_PERIOD_START_DATE	DT	8	112-119	MANDATORY - <b>Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.</b>
17.	B_MONITORING_PERIOD_END_DATE	DT	8	120-127	MANDATORY - <b>Because Sample Summary has no natural identifier, the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and field 17 (B_MONITORING_PERIOD_END_DATE) serves as the reference to the parent Sample Summary. Required to associate the summary result to the parent Sample Summary.</b>
18. *	B_VOLUME_ASSAYED	AN	9	128-136	NOT USED (Blank Fill)
19. *	B_LAB_REJECTION_REASON	AN	4	137-140	NOT USED (Blank Fill)
20. *	B_MICROBE_PRESENCE_INDICATOR	AN	1	141	NOT USED (Blank Fill)
21. *	B_TEST_TYPE	AN	1	142	NOT USED (Blank Fill)
22.	B_COUNT	N	10	143-152	NOT USED (Blank Fill)
23. *	B_COUNT_TYPE	AN	10	153-162	NOT USED (Blank Fill)
24. *	B_COUNT_UNITS	AN	9	163-171	NOT USED (Blank Fill)
25. *	B_LESS_THAN_INDICATOR	AN	1	172	NOT USED (Blank Fill)
26. *	B_LESS_THAN_CODE	AN	3	173-175	NOT USED (Blank Fill)

\* Designates field with permitted values.

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>DOMAIN</b>	<b>SIZE</b>	<b>POSITION</b>	<b>OPTIONALITY</b>
27.	B_DETECTION_LEVEL	N	16(15(8))	176-191	NOT USED (Blank Fill)
28. *	B_DETECTION_LEVEL_UNIT_CODE	AN	9	192-200	NOT USED (Blank Fill)
29.	B_CONCENTRATION	N	14(13(9))	201-214	NOT USED (Blank Fill)
30. *	B_CONCENTRATION_UNIT_CODE	AN	9	215-223	NOT USED (Blank Fill)
31.	B_REPORTED_MEASURE	AN	10	224-233	NOT USED (Blank Fill)
32.	B_REPORTED_MEASURE_COUNT_ERROR	N	9	234-242	NOT USED (Blank Fill)
33. *	B_RESULTS_TYPE	AN	2	243-244	MANDATORY - Uniqueness/Duplicate check is on the combination of field 5 (B_WATER_SYSTEM_NUMBER) and field 6 (B_ANALYTE_CODE) and field 16 (B_MONITORING_PERIOD_START_DATE) and <b>field 17 (B_MONITORING_PERIOD_END_DATE)</b> and field 33 (B_RESULTS_TYPE).
34.	B_COUNT_QUANTITY	N	10	245-254	CONDITIONALLY MANDATORY - Must be valued if field 35 (B_MEASURE) is not valued.
35.	B_MEASURE	N	14(13(9))	255-268	CONDITIONALLY MANDATORY - Must be valued if field 34 (B_COUNT_QUANTITY) is not valued.
36. *	B_MEASURE_UNIT_CODE	AN	9	269-277	CONDITIONALLY MANDATORY - Must be valued if field 35 (B_MEASURE) is valued.
	FILLER		98	278-375	Blank fill to make fixed record length of 375.

**NOTE: At least one Summary Result must exist in order to create a Sample Summary**



**2.6 B\_Result\_Summary\_Result Permitted Value List**

<b>B_RESULT_SUMMARY_RESULT</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
13.	B_DATA_QUALITY	<b>A</b> Accepted <b>R</b> Rejected <b>P</b> Preliminary
14.	B_DATA_QUALITY_REASON	<b>IF</b> Instrument Failure <b>LC</b> Lab Not Certified <b>LE</b> Lab Error <b>OT</b> Other <b>RC</b> Requestor Cancelled <b>WR</b> Water System Rejected
15.	B_ANALYSIS_METHOD_CODE	Federally owned Analyte Method Pairings are available in the SDWIS/STATE Online Data Dictionary. Federally owned and state-owned Analyte Method Pairings may be viewed by accessing the Analyte Method Pairing menu item available in the <i>SDWIS Administration</i> component of SDWIS/STATE.
18.	B_VOLUME_ASSAYED	<b>100ML</b> <b>300ML</b> <b>400ML</b>
19.	B_LAB_REJECTION_REASON	<b>CNFG</b> Confluent Growth <b>TCNG</b> Turbid Culture No Gas <b>TNTC</b> Too Numerous to Count
20.	B_MICROBE_PRESENCE_INDICATOR	<b>A</b> Absence <b>P</b> Presence
21.	B_TEST_TYPE	<b>C</b> Confirmed <b>P</b> Presumptive

<b>B_RESULT_SUMMARY_RESULT</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
23.	B_COUNT_TYPE	<b>CFU</b> Colony Forming Units/Milliliter <b>COLONIES</b> Colonies/100 Milliliters <b>CYSTSC</b> Cysts Calculated (GL) <b>CYSTSO</b> Cysts Observed (GL) <b>MPN</b> Most Probable Number/100 Milliliters <b>OBSVNS</b> Observations <b>OCYSTSC</b> Oocysts Calculated (CRY) <b>OCYSTSO</b> Oocysts Observed (CRY) <b>PFU</b> Plaque Forming Units/Milliliter <b>TUBES</b> Tubes/100 Milliliters
24.	B_COUNT_UNITS	<b>100GAL</b> 100 Gallons <b>100L</b> 100 Liters <b>100ML</b> 100 Milliliters <b>400GAL</b> 400 Gallons <b>400ML</b> 400 Milliliters <b>FLD100</b> Field at 100 Power (used in measuring numbers of observations) <b>GAL</b> Gallons <b>LITER</b> Liters <b>ML</b> Milliliters
25.	B_LESS_THAN_INDICATOR	<b>Y</b> Yes <b>N</b> No
26.	B_LESS_THAN_CODE	<b>MDL</b> Federal Minimum Detection Limit <b>MRL</b> Lab Reporting Level

<b>B_RESULT_SUMMARY_RESULT</b>			
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>	
28.	B_DETECTION_LEVEL_UNIT_CODE	<b>CM-1</b> Total Absorbance for UV <b>CT</b> Contact Time <b>LBS/CFT</b> Pounds/Cubic Foot (for measuring density) <b>LBS/GAL</b> Pounds/Gallon (for measuring density) <b>MFL</b> Million of Fibers/Liter (for measuring asbestos) <b>MG/L</b> Milligrams/Liter (AKA Parts per Million - ppm) <b>MREM</b> Millirems/Liter <b>MREMY</b> Millirems/Liter/Year <b>NG/L</b> Nanograms/Liter (AKA Parts per Trillion - ppt) <b>NTU</b> Nephelometric Turbidity Units <b>PIC/L</b> Picocuries/Liter <b>UG/L</b> Micrograms/Liter (AKA Parts per Billion - ppb)	

<b>B_RESULT_SUMMARY_RESULT</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
30.	B_CONCENTRATION_UNIT_CODE	%LUM Percent of Luminance (for measuring color) %PUR Percent of Purity (for measuring color) ADMIU American Dye Manufacturers Institute Units (for measuring color) AGGR Aggressive Index (for corrosivity) C Degrees Celsius CM-1 Total Absorbance for UV CT Contact Time CU Color Units F Degrees Fahrenheit FTU Flavor Threshold Units (for measuring taste and odor) LANG Langlier Index (for measuring corrosivity) LBS/CFT Pounds/Cubic Foot (for measuring density) LBS/GAL Pounds/Gallon (for measuring density) MFL Million of Fibers/Liter (for measuring asbestos) MG/L Milligrams/Liter (AKS Parts per Million - ppm) MREM Millirems/Liter MREMY Millirems/Liter/Year NG/L Nanograms/Liter (AKA Parts per Trillion - ppt) NMT Nanometers (to measure color wave length) NTU Nephelometric Turbidity Units OBSVNS Observations/Field at 100 power PH PH Measure (parts hydrogen (pH 0 - 14)) PIC/L Picocuries/Liter SU Standard Units (for measuring color) TON Threshold Odor Number (for odor) UG/L Micrograms/Liter (AKA Parts per Billion - ppb) UMHOS/CM Microhos/Centimeter (for measuring conductivity)

<b>B_RESULT_SUMMARY_RESULT</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
33.	B_RESULTS_TYPE	<b>90</b> 90th Percentile (Lead & Copper) <b>CB</b> Chlorine Residual below 0.2mg/p (0.2mg/L) <b>CK</b> Check Samples Taken <b>CR</b> Total Chlorine Residual Taken <b>FV</b> Days in Federal Violation Period <b>HR</b> High Result for Period <b>LR</b> Low Result for Period <b>MR</b> Mean Result for Period <b>NE</b> Negative Sample Analytical Results <b>NF</b> Negative Finished Water Samples <b>ND</b> Negative Results from Distribution System Samples <b>NR</b> Negative Raw Water Samples <b>PO</b> Positive Sample Analytical Results <b>RF</b> Required Repeats per Federal Regulations <b>RI</b> Replacement Samples for Invalid Results <b>RJ</b> Rejected Samples <b>RL</b> Replacement Samples <b>RP</b> Repeat Samples <b>RS</b> Required Repeats per State Regulations <b>RT</b> Routine Samples with negative results from Distribution System <b>SP</b> Special Samples <b>SR</b> Samples Required <b>SV</b> Days in State Violation Period <b>TO</b> Total Samples Collected <b>VI</b> Days of Violation Period

<b>B_RESULT_SUMMARY_RESULT</b>		
<b>FIELD NO</b>	<b>ATTRIBUTE NAME</b>	<b>PERMITTED VALUES</b>
36.	B_MEASURE_UNIT_CODE	<b>%LUM</b> Percent of Luminance (for measuring color) <b>%PUR</b> Percent of Purity (for measuring color) <b>ADMIU</b> American Dye Manufacturers Institute Units (for measuring color) <b>AGGR</b> Aggressive Index (for corrosivity) <b>C</b> Degrees Celsius <b>CM-1</b> Total Absorbance for UV <b>COUNT</b> Count <b>CT</b> Contact Time <b>CU</b> Color Units <b>F</b> Degrees Fahrenheit <b>FTU</b> Flavor Threshold Units (for measuring taste and odor) <b>LANG</b> Langlier Index (for measuring corrosivity) <b>LBS/CFT</b> Pounds/Cubic Foot (for measuring density) <b>LBS/GAL</b> Pounds/Gallon (for measuring density) <b>MFL</b> Million of Fibers/Liter (for measuring asbestos) <b>MG/L</b> Milligrams/Liter (AKA Parts per Million - ppm) <b>MREM</b> Millirems/Liter <b>MREMY</b> Millirems/Liter/Year <b>NG/L</b> Nanograms/Liter (AKA Parts per Trillion - ppt) <b>NMT</b> Nanometers (to measure color wave length) <b>NTU</b> Nephelometric Turbidity Units <b>OBSVNS</b> Observations/Field at 100 power <b>PH</b> PH Measure (Parts Hydrogen (pH 1 -14)) <b>PIC/L</b> Picocuries/Liter <b>SU</b> Standard Units (for measuring color) <b>TON</b> Threshold Odor Number (for odor) <b>UG/L</b> Micrograms/Liter (AKA Parts per Billion - ppb) <b>UMHOS/CM</b> Microhos/Centimeter (for measuring conductivity)

**2.7 B\_Result\_Summary\_Result Mapping to SDWIS/STATE Entities**

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
1.	B_RESULT	B_RECORD_NAME			
2.	B_RESULT	B_REPORT_TYPE			
3.	B_RESULT	B_TRANSACTION_NUMBER			
4.	B_RESULT	B_LAB_SAMPLE_NUMBER	TSASAMPL	SBS Sample	LAB_ASSIGNED_ID_NUMBER (Reference Key to SBS Sample)
5.	B_RESULT	B_WATER_SYSTEM_NUMBER	TINWSYS	Water System	NUMBER (Reference Key to SBS Sample or Reference Key to Sample Summary)
6.	B_RESULT	B_ANALYTE_CODE	TSAANLYT	Analyte	CODE (Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)
7.	B_RESULT	B_CAS_NUMBER	TSAANLYT	Analyte	CAS_REGISTRY_NUMBER (Foreign Key to SBS Sample Analytical Result)
8.	B_RESULT	B_ANALYSIS_START_DATE	TSASAR	SBS Sample Analytical Result	ANALYSIS_START_DATE
9.	B_RESULT	B_ANALYSIS_START_TIME	TSASAR	SBS Sample Analytical Result	ANALYSIS_START_TIME
10.	B_RESULT	B_ANALYSIS_COMPLETION_DATE	TSASAR	SBS Sample Analytical Result	ANALYSIS_COMPLETE_DATE
11.	B_RESULT	B_ANALYSIS_COMPLETION_TIME	TSASAR	SBS Sample Analytical Result	ANALYSIS_COMPLETE_TIME
12.	B_RESULT	B_STATE_NOTIFY_DATE	TSASAR	SBS Sample Analytical Result	STATE_NOTIFICATION_DATE
13.	B_RESULT	B_DATA_QUALITY	TSASAR	SBS Sample Analytical Result	DATA_QUALITY_CODE

<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
14.	B_RESULT	B_DATA_QUALITY_REASON	TSASAR	SBS Sample Analytical Result	DATA_QUALITY_REASON_CODE
15.	B_RESULT	B_ANALYSIS_METHOD_CODE	TSASMN	Standard Method Number	CODE <i>(Foreign Key to SBS Sample Analytical Result)</i>
16.	B_RESULT	B_MONITORING_PERIOD_START_DATE	TMNMPRD	Monitoring Period	BEGIN_DATE <i>(Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)</i>
17.	B_RESULT	B_MONITORING_PERIOD_END_DATE	TMNMPRD	Monitoring Period	END_DATE <i>(Foreign Key to SBS Sample Analytical Result or Reference Key to Sample Summary)</i>
18.	B_RESULT	B_VOLUME_ASSAYED	TSAMAR	Microbiological Analytical Result	ASSAY_UOM_CODE
19.	B_RESULT	B_LAB_REJECTION_REASON	TSAMAR	Microbiological Analytical Result	REJECTION_REASON_CODE
20.	B_RESULT	B_MICROBE_PRESENCE_INDICATOR	TSAMAR	Microbiological Analytical Result	PRESENCE_INDICATOR_CODE
21.	B_RESULT	B_TEST_TYPE	TSAMAR	Microbiological Analytical Result	TEST_TYPE
22.	B_RESULT	B_COUNT	TSAMAR	Microbiological Analytical Result	COUNT_QTY
23.	B_RESULT	B_COUNT_TYPE	TSAMAR	Microbiological Analytical Result	COUNT_TYPE
24.	B_RESULT	B_COUNT_UNITS	TSAMAR	Microbiological Analytical Result	COUNT_UOM_CODE
25.	B_RESULT	B_LESS_THAN_INDICATOR	TSASAR	SBS Sample Analytical Result	LESS_THAN_INDICATOR



<b>B_RESULT_SUMMARY_RESULT</b>					
<b>FIELD NO</b>	<b>STRUCTURE SET NAME</b>	<b>STRUCTURE SET ATTRIBUTE NAME</b>	<b>SDWIS/STATE TABLE NAME</b>	<b>SDWIS/STATE ENTITY NAME</b>	<b>SDWIS/STATE ATTRIBUTE NAME</b>
26.	B_RESULT	B_LESS_THAN_CODE	TSASAR	SBS Sample Analytical Result	LESS_THAN_CODE
27.	B_RESULT	B_DETECTION_LEVEL	TSASAR	SBS Sample Analytical Result	DETECTION_LIMIT_NUMBER
28.	B_RESULT	B_DETECTION_LEVEL_UNIT_CODE	TSASAR	SBS Sample Analytical Result	DETECTION_LIMIT_UOM_CODE
29.	B_RESULT	B_CONCENTRATION	TSASAR	SBS Sample Analytical Result	CONCENTRATION_MSR
30.	B_RESULT	B_CONCENTRATION_UNIT_CODE	TSASAR	SBS Sample Analytical Result	UOM_CODE
31.	B_RESULT	B_REPORTED_MEASURE	TSASAR	SBS Sample Analytical Result	REPORTED_MEASURE
32.	B_RESULT	B_REPORTED_MEASURE_COUNT_ERROR	TSASAR	SBS Sample Analytical Result	RAD_COUNTING_ERROR
33.	B_RESULT	B_RESULTS_TYPE	TSASSR	Sample Summary Result	TYPE_CODE
34.	B_RESULT	B_COUNT_QUANTITY	TSASSR	Sample Summary Result	COUNT_QTY
35.	B_RESULT	B_MEASURE	TSASSR	Sample Summary Result	MEASURE
36.	B_RESULT	B_MEASURE_UNIT_CODE	TSASSR	Sample Summary Result	UOM_CODE

**2.8 B\_Result\_Summary\_Result Definitions**

<b>B_RESULT_SUMMARY_RESULT DEFINITIONS</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)</b>
1.	B_RECORD_NAME	DTR - Indicates that the input string represents a Result - each result record must contain DTR in the first field.
2.	B_REPORT_TYPE	T - indicates the input string is an individual Sample/Sample Result; S indicates the input string is a Summary/Summary Result. This field is mandatory.
3.	B_TRANSACTION_NUMBER	NOT USED.
4.	B_LAB_SAMPLE_NUMBER	Reference field - Number/alphanumeric that identifies the sample to which this result belongs. When used, this field must be identical to the B_LAB_SAMPLE_NUMBER in the Sample record unless the sample is a composite in which case it may be identical to the B_LAB_COMPOSITE_NUMBER in the Sample.
5.	B_WATER_SYSTEM_NUMBER	Reference field - The Public Water System (PWS) Identification number. This field is mandatory and must be identical to the B_WATER_SYSTEM_ NUMBER in the Sample or Summary.
6.	B_ANALYTE_CODE	Analyte Code for the result to be assessed or the Sample Summary to be referenced.
7.	B_CAS_NUMBER	Chemical Abstract Series Number - can be used to specify Chemical analytes.
8.	B_ANALYSIS_START_DATE	Date that laboratory analysis begins.
9.	B_ANALYSIS_START_TIME	Time that laboratory analysis begins.
10.	B_ANALYSIS_COMPLETION_DATE	Date that laboratory analysis ends.
11.	B_ANALYSIS_COMPLETION_TIME	Time that laboratory analysis ends.
12.	B_STATE_NOTIFY_DATE	Date that the state receives the analytical result.
13.	B_DATA_QUALITY	Code indicating whether or not the analytical result meets established data quality criteria.
14.	B_DATA_QUALITY_REASON	Possible reasons that the code may not meet data quality standards.
15.	B_ANALYSIS_METHOD_CODE	Standard analysis method code for the analyte for which the result is assessed.

<b>B_RESULT_SUMMARY_RESULT DEFINITIONS</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)</b>
16.	B_MONITORING_PERIOD_START_DATE	Start date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
17.	B_MONITORING_PERIOD_END_DATE	End date of the monitoring period to which the analytical result or the referenced sample summary is assigned. The monitoring period must be valid for the Water System that collected the sample and the rule against which the result is assessed.
18.	B_VOLUME_ASSAYED	The amount of water used during the laboratory assessment.
19.	B_LAB_REJECTION_REASON	Possible lab comments (Too numerous to count/Turbid Culture No Gas) that may cause the state to reject a microbiological result.
20.	B_MICROBE_PRESENCE_INDICATOR	Presence/Absence indicator - P indicates that the microbiological result is positive while A indicates a negative result.
21.	B_TEST_TYPE	Designates the result as either “presumptive” or “confirmed.”
22.	B_COUNT	Value greater than 0 indicates a positive microbiological result.
23.	B_COUNT_TYPE	Type of microbiological unit that is being counted per specified count unit. Count type varies with the microbiological organism where count is being recorded.
24.	B_COUNT_UNITS	The units of measure associated with the microbiological analytical result count.
25.	B_LESS_THAN_INDICATOR	When set to “Y”, indicates that the analytical result is <i>less than either the</i> Lab Reporting Level (supplied by the lab) or the federal minimum detection limit. Typically set to “Y” for a non-detect result.

<b>B_RESULT_SUMMARY_RESULT DEFINITIONS</b>		
<b>FIELD NO</b>	<b>FIELD NAME</b>	<b>INDIVIDUAL RESULT (T)/ SUMMARY RESULT (S)</b>
26.	B_LESS_THAN_CODE	<p>MRL - Lab Reporting Level--Indicates that the lab will supply the minimum detection limit and will value the B_DETECTION_LEVEL and B_DETECTION_LEVEL_UNIT_CODE fields. Note: this value may be the federal minimum detection limit for that analyte but SDWIS treats is as a Lab Reporting Level if the value is supplied b y the lab. (Some laboratories wish to report a value that is more stringent than the federal minimum detection limit for the analyte.)</p> <p>MDL - Federal minimum detection limit - value carried as appropriate for each analyte and method - the source for each value is the code for the Code of Federal Regulation (40 CFR Section 141, et. al). If field contains MDL, SDWIS will look up the federal detection limit for the analyte and populate B_DETECTION_LEVEL and B_DETECTION_LEVEL_UNIT_CODE fields. (The data for MDLs is stored in SDWIS as TSAMAA MDL_Measure and MDL_Msr_Unit_Code.)</p>
27.	B_DETECTION_LEVEL	If non-detect or "less than Lab Reporting Level" - value supplied by Lab.
28.	B_DETECTION_LEVEL_UNIT_CODE	Lab Reporting Level unit of measure.
29.	B_CONCENTRATION	If detect, this is the concentration value of the result reported as a number.
30.	B_CONCENTRATION_UNIT_CODE	Unit of measure associated with the concentration value.
31.	B_REPORTED_MEASURE	If detect, this is the concentration value of the result; this field preserves precision.
32.	B_REPORTED_MEASURE_COUNT_ERROR	The counting error estimated by the lab due to some analytical anomaly - usually expressed as a value plus/minus the reported measure/unit of measure.
33.	B_RESULTS_TYPE	Used only in Sample Summary - list of possible types of Sample Summary results.
34.	B_COUNT_QUANTITY	Count of each type of result within the Sample Summary.
35.	B_MEASURE	Measure value that represents the result obtained from a sample analysis.
36.	B_MEASURE_UNIT_CODE	Unit of measure associated with the Measure.

# Appendix F: Troubleshooting

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## External Application Errors

If you have a problem opening MS Word or receive any error messages, there may be a problem with the SDWIS/STATE to MS Word connection.

- Make sure the installation of MS Word has “Tip of the Day” turned off. This is a major source of interference.
- Make sure that the C:\SDWIS\SDWIS.INI file has the correct path for the location of MS Word.
- It is not critical that the VIODAT.DOC or SCNOTDAT.DOC be present on the disk, but it is imperative that the correct directory structure exists. Specifically, the C:\SDWIS\DOCS subdirectory must exist. (The directory **can** be empty, but probably will not be.)
- Typically, if the violation letter generates correctly, the schedule notification letter will also work correctly.

If you need to test the Violation Letter generation again, change the violation you just validated back to a potential violation. Return to the Monitoring and Noncompliance main window. Select **Violations/ Maintain Violation**. Enter your PWS ID in the Water System Number field of the Violation Search dialog box and click on **Search**. This retrieves the Violation Maintenance window. Change the Status QA Code at the bottom back to *Potential*. Click **OK**. This violation will appear again on the Potential Violation Validation Worklist.

## Running Out of External System Numbers

The error message below appears when you run out of external system numbers. This will happen if you continuously remigrate without resetting the numbers in TINEISN.

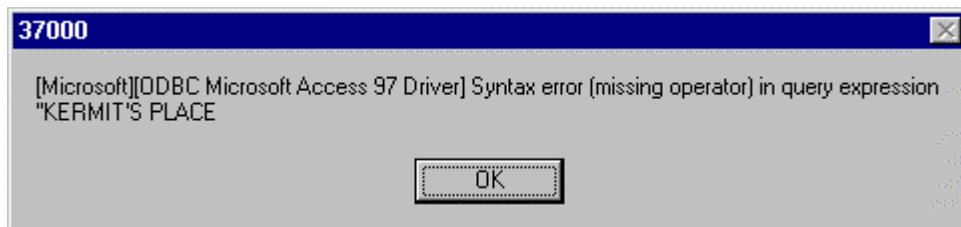
```
TIRM030E: Application failed - Updates have been backed out
TIRM031E: Failing procedure exit data follows:
TIRM032E: Last or current action block ID= 0008650773
TIRM033E: Last or current action block name = SHI056_DETERMINE_NEXT_ES_NUM
TIRM034E: Last or current database statement = 3
TIRM035E: Current statement being processed = 0000000003
TIRM038E: *** Fatal database error was encountered ***
TIRM039E: DB last status = DB
ORA-01438: value larger than specified precision allows for this column
TIRM046E: *** Processing terminated ***
TIRM044E: *** Press OK to continue ***
```

## Synchronizing Oracle Logins Within the TINUSER Table

If you can log into Oracle but find yourself unable to successfully enter SDWIS/STATE, the problem may be that your Oracle User ID is not “known” to SDWIS/STATE. The Oracle login User ID should be replicated in the USERID field of the TINUSER table. When you log into Oracle, SDWIS/STATE checks that your Oracle User ID resides in the USERID field of the TINUSER table. The USERID field of the TINUSER table comes prepopulated with the Oracle schema owner USERID.

## Naming Water Systems

Do not use apostrophes or other special characters when creating water system names or Water System Group names. This may cause problems when you run preliminary TCR noncompliance determination, resulting in the error message below.



## IEF Exception Thrown Errors

### Precompliance

The following error has been encountered occasionally when executing *Precompliance*, *Migration to SDWIS/STATE*, and *Sampling via EDI*. (All three of these components use MS Access 97 databases.)

#### IEF Exception Thrown error (005)

If this occurs, it is most likely because the application is running on a workstation with MS Access 97 which has, or previously had, MS Access 2.0 installed. When an MS Access 2.0.MDB file is converted to MS Access 97 on such a workstation, this error can happen.

Resolution: First, be certain MS Access 2.0 is no longer on the workstation. Then, invoke the 32-bit ODBC Administrator utility found in the Windows 95 Control Panel or in the Oracle for Windows 95 folder and edit “Setup” the Microsoft ODBC data source (e.g., PRECOMP.MDB) by selecting the “Repair” function. After completing these steps, retry the application.

## Migration to SDWIS/STATE

The following error has been encountered when executing Migration to SDWIS/STATE:

IEF Exception Thrown error

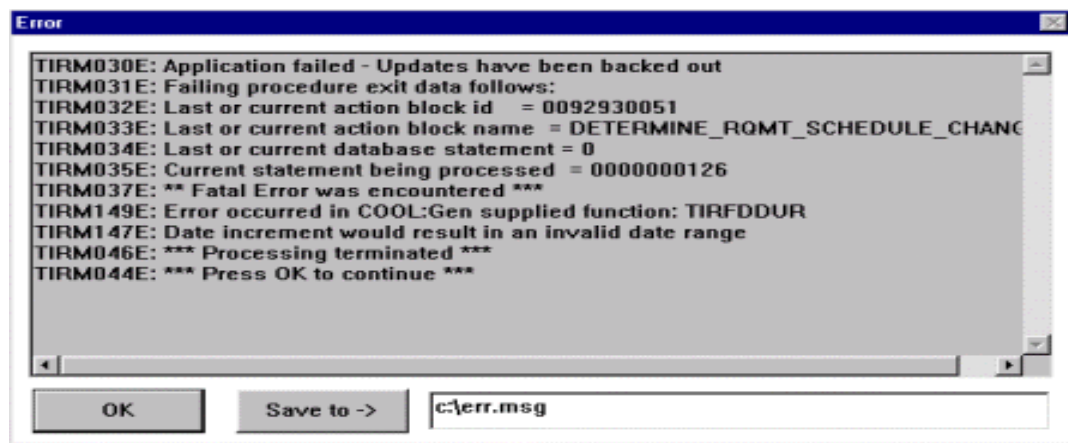
Open SDWISCOM.MDB, minimize the application screen, and pick Tables from the background window. Select the SYSTEM table. The last column on the right is called TEMPFILE\_PATH, and the value in this field must give the full path and filename of the MIGRATMP.DAT file. If this file is to be in the same directory as the SDWISCOM.MDB file, this entry must be set to:

C:\SDWIS\MIGRATE\MIGRATMP.DAT

If you need to have the MIGRATMP.DAT file moved to another location (for disk space purposes), you must change the path in the field to reflect the new location.

## CoolGen Runtime Error Due to Missing TCR Monitoring Periods

In the *Inventory* component, when you press **Exit** or **Select Water System** on the Water System Modification window, after having made inventory changes (e.g. changed population from nontransient to transient, changed the state type code to transient noncommunity, added a source, etc.), if you get the following runtime error it is an indication that you have run out of TCR monitoring periods:



The *Inventory* component does not create new TCR monitoring periods, although it will create the necessary links in TMNWSMPA and TMNRWSMA tables as long as the necessary TCR monitoring period exists. You can avoid this message by creating a few months' worth of future TCR monitoring periods. You do not have to link them to a water system.

## Sampling via EDI or Migration to SDWIS/FED: Sampling

The following error may be encountered while running *Sampling via EDI or Migration to SDWIS/FED: Sampling*:

```
TIRM030E:Application Failed - updates have been backed out.
TIRM031E:Failing procedure exit data follows:
TIRM032E:Last or current action block id = 0002490389
TIRM033E:Last or current action block
name=BATCH_EDI_CONVERT_TEST_TO_NUMBER
TIRM034E: Last or current action database statement =0
TIRM035E: Current statement being processed = 000000054
TIRM037E: *** Fatal Error was encountered ***
TIRM149: Error occured in EIF supplied function: TIRFNUM
TIRM145E: Invalid length for string to be converted 0< length < 16
TIRM046E: *** Processing Terminated ***
TIRM044E: *** Press OK to Continue ***
```

The problem may be that a value in the structure set-formatted text file that is designated as numeric has not been left justified. All values in the structure set-formatted file that are processed by either *Sampling via EDI or Migration to SDWIS/FED: Sampling* must be left justified and blank filled to fill out the 375 character fixed-format row length.

## Unexpectedly Slow Performance for SDWIS/STATE

If you find the performance of SDWIS/STATE to have degraded, your data schema may no longer be optimized. Oracle has two modes for using the optimizer, which is the mechanism for determining the best access path to the data. The rules-based optimizer is older and is based strictly on the syntax of the SQL being run. The cost-based optimizer is newer and is based on the SQL syntax and statistics available internally to the optimizer engine. If the statistics are not available, the database engine will use the rules-based optimizer. To get the statistics populated in the internal Oracle tables, the DBA must run the Analyze command for each table or data schema desired. Oracle provides a PL/SQL package called “dbms\_utility” and the procedure is “analyze\_schema.” By executing the following in SQL\*Plus

```
execute dbms_utility.analyze_schema('XXV61', 'COMPUTE')
```

the appropriate statistics are generated and available to the optimizer. Run this procedure at periodic intervals, especially when there have been extensive additions and/or changes to the SDWIS/STATE data. Once a week is recommended. (Note: change the “XX” in the line above to the state ID, as appropriate.) The Analyze.sql script supplied with the installation is an easy way to initiate the Analyze command.



## Printer Settings

If you receive a printer error when you first try to review on paper your precompliance report, you will need to change the default printer for the precompliance MS Access reports:

- Open the PRECOMP.MDB file Access, while holding the *F11* key.
- Open the Precompliance report object file.
- Select **Reports/MCPrecompliance\_rppt**, and click the **Design** button.
- From the pull-down menu, select **File/Printer Setup**.
- When prompted with a message that the Precompliance report was generated for a printer other than your current default printer, click on **OK** and select your *Default Printer*.
- Save the modified report and copy to each PC that will be running precompliance.

## Interface with External MS Applications

If you are unable to review reports in *Migration to SDWIS/FED* using the View on Screen checkbox, verify that the location of WINWORD.EXE has been specified correctly in the Utilities program. In other parts of SDWIS/STATE if the application seems not to know the location of MS Word, use the Utilities program to specify the location of MS Word.

## Reinstalling ODBC on the Client Workstation

As mentioned in the software requirements necessary to run SDWIS/STATE that are listed in the Installation Guide, each client workstation should already have the MS Access 97 ODBC driver components and Oracle 8 ODBC driver components installed. In the event that it is necessary to install either MS Access 97 or Oracle 8 on each client workstation, the following steps may be of assistance.

### Microsoft Access ODBC

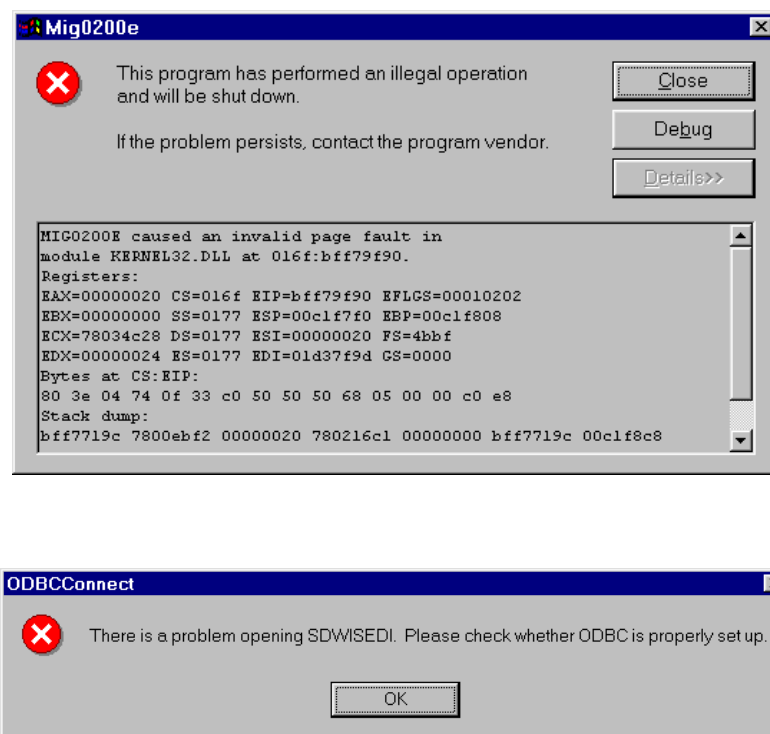
MS Access ODBC drivers are essential for the SDWIS/STATE application to operate. In the event that your MS Access ODBC drivers become corrupted or for some reason are not functioning, you should reinstall them from your original MS Access 97 installation CD-ROM.

## Oracle ODBC

Oracle 8 ODBC drivers are essential for the SDWIS/STATE application to operate. In the event that your Oracle 8 ODBC driver becomes corrupted or for some reason is not functioning, you will need to reinstall it. Note that the Oracle 8.0.4 ODBC driver on the Oracle 8.0.4 installation CD-ROM does not work correctly and that you will need to download the patch to that driver from Oracle's Web site. (See the Installation Guide Chapter 1 for information on where to find the patch and how to apply it.)

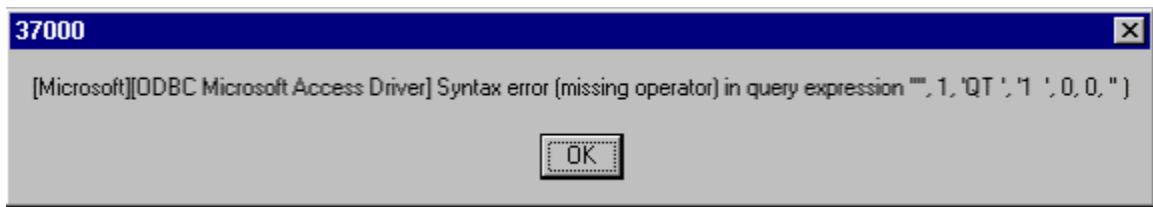
## Recreating MS Access ODBC Data Sources

If you encounter either of the following error messages, this is a sign that your MS Access ODBC data sources have been corrupted or removed. Follow the instructions in the Installation Guide Chapter 3 (Open Database Connectivity Administration, Microsoft Access ODBC).



## Windows NT Installed with Service Pack 5 or 6

Windows NT users who have installed Service Pack 5 or 6 may receive the following message when running automated Total Coliform Rule (TCR) Noncompliance Determination. Install Service Pack 4 to ensure normal operation.



## Further Assistance

If you have additional questions, call the SDWIS/STATE User Support Hotline at 703-908-2012 or Clint Lemmons, the user support representative with EPA's OGWDW, at 202-260-3612.

## Staging

Once the installation is complete, if an error occurs while in MS Access and you receive the following error messages:

1. "ODBC-call failed."
2. "[Oracle][ODBC Oracle Driver][Oracle OCI]ORA-00904: invalid column name [#904]."
3. "Microsoft Access can't open the table in Datasheet view."

there may be a problem with the link to the Oracle table(s).

This problem can be resolved by re-linking the tables that produced the above error:

1. Press **F11** to view the main database window.
2. From the pull down menu, select **File/Get External Data/Link Tables**. This will open the **Link** dialog box.
3. From the Files of type, select **ODBC Databases ()**. This will open a Select Data Source dialog box.
4. Select **SDWIS (not shareable).dsn**, then click the **OK** button.
5. Enter the Oracle User Name and Password at the Logon to Oracle prompt (e.g., to relink the table for DATAMIG.MDB, enter DATA\_MIGRATION as a user name and password).
6. From the *Link Tables* dialog box, select the tables required for import. (These will be the tables that produced the error message listed above.)
7. Make sure you retain the old name of the linked table, e.g., TMGLGENTOra.

Correctly linked tables are represented by a black arrow pointing to a globe. After the table has been linked, highlight the Table name and click on the **Open** button to test the link. At this point you will see the data from Oracle in a table view.

## Appendix G: Fact Sheet Table To CCR Writer Mapping Matrix

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#	CCR Writer Contact Information Field Label	Optionality & Notes	Destination CCR Writer Table and Field (Domain & Size)	Source Fact Sheet Table and Field	Data Manipulation
1		Required	tblContactInfo - ID Number (Long Integer - auto)	No source	Internally generated unique number that is the primary key for tblContactInfo.
2	Water System Name	Required	tblContactInfo Name Text - 50	TINWSYS.NAME	Change so that first letter of each word is upper case and remaining letters are lower case.
3	Contact Name	Required	tblContactInfo Contact Text - 50	TININDIV. FIRST_NAME_TEXT  TININDIV. LAST_NAME	Concatenate First Name Text with Last Name with space in between. Change so that first letter of each name is upper case and remaining letters are lower case.
4	Address1	Optional	tblContactInfo Address1 Text - 50	TINLGENT. ADDR_LINE_ONE_TXT	Change so that first letter of each word is upper case and remaining letters are lower case.

Fact Sheet Table to CCR Writer TblContact Information Mapping Matrix

#	CCR Writer Contact Information Field Label	Optionality & Notes	Destination CCR Writer Table and Field (Domain & Size)	Source Fact Sheet Table and Field	Data Manipulation
5	Address2	Optional	tblContactInfo Address2 Text - 50	TINLGENT. ADDR_LINE_ TWO_TXT	Change so that first letter of each word is upper case and remaining letters are lower case.
6	City	Optional	tblContactInfo City Text - 50	TINLGENT. ADDRESS_CITY_NAME	Change so that first letter of each word is upper case and remaining letters are lower case.
7	State	Optional	tblContactInfo State Text - 2	TINLGENT. ADDRESS_ STATE_CODE	None.
8	Zip Code	Optional	tblContactInfo Zip Text - 9 Input mask = “00000\_-9999;:_”	TINLGENT. ADDRESS_ZIP_CODE	Convert to match input mask.

Fact Sheet Table to CCR Writer TblContact Information Mapping Matrix (continued)

#	CCR Writer Contact Information Field Label	Optionality & Notes	Destination CCR Writer Table and Field (Domain & Size)	Source Fact Sheet Table and Field	Data Manipulation
9	Phone	Required	tblContactInfo Phone Text - 10 Input mask = “!\(999”) "000\ -0000;:_ ”	TINLGENT. PHONE_ NUMBER	Convert to match input mask.
10	Fax	Optional	tblContactInfo Fax Text - 10 Input mask = “!\(999”) "000\ -0000;:_ ”	TININDIV. FAX_NUMBER	Convert to match input mask.
11	E-mail Address	Optional	tblContactInfo Email Text - 50	TININDIV. EMAIL_ADDRESS	None.
12	Web Address (URL)	Optional	tblContactInfo URL Text - 255	No mapping	Do not populate.
13	Report Title	Optional	tblContactInfo ReportTitle Text - 255	No mapping	Do not populate.

Fact Sheet Table to CCR Writer TblContact Information Mapping Matrix (continued)



#	CCR Writer Contact Information Field Label	Optionality & Notes	Destination CCR Writer Table and Field (Domain & Size)	Source Fact Sheet Table and Field	Data Manipulation
14		Optional	tblContactInfo PWIS ID Number Text - 20	TINWYS. NUMBER0	None.
15		Optional	tblContactInfo Map OLE Object	No mapping	Do not populate.
16		Optional	tblContactInfo Logo OLE Object	No mapping	Do not populate.
17		Optional	tblContactInfo AdditionalInfo	No mapping	Do not populate.

Fact Sheet Table to CCR Writer TblContact Information Mapping Matrix (continued)

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